WARSHIPS IN THE KOMANDORSKI ISLANDS 1943

The USN and IJN fight the last pure surface battle

MARK LARDAS

ILLUSTRATED BY PAUL WRIGHT

NEW VANGUARD 333

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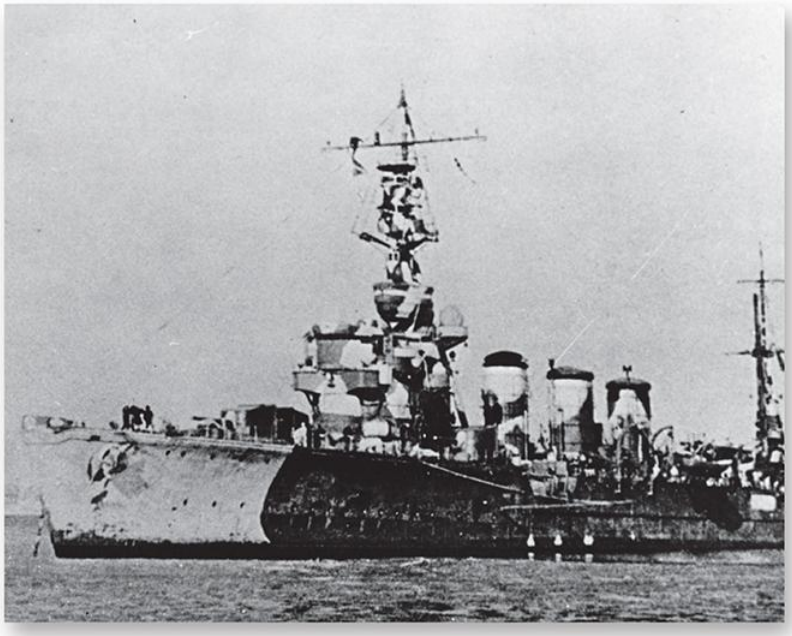

MARK LARDAS ILLUSTRATED BY PAUL WRIGHT

Author's dedication

To the Pioneer High Wargaming Society to which I belonged in high school. I remember Don Finkbeiner, Paul Stein, Norm Anschuetz, Paul Potter, and Janet Potter (whom I married eight years later). I've forgotten some names. It's been over 50 years.

Here's tae us; wha's like us? Damn few – and they're a' deid!

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INTRODUCTION

The Battle of the Komandorski Islands was one of the most unusual naval battles of World War II. Fought over a four-hour period, it was a daytime surface action, fought primarily at long ranges. It was the battle the United States Navy and the Imperial Japanese Navy had expected since the end of World War I. Both built navies to fight surface actions, gunnery duels between matched sets of ships. While battleship actions were supposed to provide the main card, the expectation was that most would be fought by cruisers and destroyers.

Komandorski met that expectation, which made it unusual. An anachronistic battle, surface ships fighting surface ships, it was a throwback to the pursuit of the *Goeben*, or the battles of the Falklands and Dogger Bank, in World War I. Cruisers fighting cruisers.

Aircraft, primitive when most of the ships at Komandorski were built, grew in capability throughout the 1930s. Both navies updated their cruisers during that decade to reflect the growing aircraft capabilities. By 1942, airpower ruled the oceans. The decisive battles of the Pacific War were fought between ships out of sight of the enemy, with aircraft dominating the battle. Fleets were built around aircraft carriers, with cruisers, destroyers, and battleships fast enough to keep up with the them, supporting the carriers.

The Battle of the Komandorski Islands at its height. *Salt Lake City* is retiring from the enemy under fire. Enemy shells can be seen splashing astern of the cruiser. Its turrets face aft, but only its rear turrets can bear on the enemy. (USNHHC)

However, significant warships did fight surface battles in 1942, with cruisers and destroyers frequently clashing during that year and into 1943. With the exception of the Battle of the Java Sea, all were close-range nighttime actions. Torpedoes, short-range gunnery, and surprise dominated. As dawn neared, the side lacking air superiority departed, lest their surface warships be hunted down by aircraft. Java Sea was an exception spurred by Allied desperation. There, the Imperial Japanese Navy did not need aircraft to triumph – its surface warships sufficed.

By 1943 both nations' navies understood that the day of the daytime surface action had passed. A year into the Pacific War both navies recast their surface warships to fight aircraft by day, fighting other surface warships only at night. Yet a year and a month after Java Sea, Allied and Japanese cruisers and destroyers fought another surface gunnery action.

A line of heavy cruisers from the US Navy Scouting Force returns to San Diego after fleet exercises in the 1930s. Throughout the 1920s and 1930s the Japanese and US Navies thought the next war would see frequent daytime surface battles between cruiser forces. (USNHHC)

In several ways it was a replay of the Battle of the Java Sea, with aircraft playing no role in the conflict. It did include a Japanese cruiser which fought at Java Sea, and Japan significantly outnumbered its foes. However, despite Japanese advantages in this action the US came away the winner.

There were several reasons why Komandorski was a daytime surface action. The first was the location. Arctic waters were literally, as well as figuratively, the end of the world. It was far from the decisive theater of the Pacific War, both sides had limited resources, and the carriers were needed in the Central and Southwest Pacific.

The cruisers and destroyers sent were the least valuable ones; the oldest cruisers and least-missed destroyers. Due to the remote location and the vast distances between islands, few aircraft were sent. Those that could reach the battle area were long-legged reconnaissance aircraft and bombers, or cruiser floatplanes. These did not dominate the sea like single-engine carrier aircraft.

In truth, the Aleutians were an accidental campaign, a diversion. In June 1942 Japan invaded Alaska, then a US territory. Part of the Midway campaign, its goal was to lure the US fleet north into Aleutian waters immediately prior to Japan's invasion of Midway. Japan's Fifth Fleet launched air raids on Dutch Harbor in Unalaska and on Adak Island. They then landed troops on Attu and Kiska, two other islands on the western end of the Aleutian Islands, occupying US territory. Having taken two islands in the Aleut chain, Japan felt obligated to defend them. Likewise, the US felt

obligated to retake them. One side would be running supplies to captured Attu and Kiska, while the other tried to blockade them.

Japan took the islands to secure their northern flank. They had no intention of going further east. They actually regretted taking the islands; supply was a challenge, Attu being 650nm east of the nearest Imperial Japanese base. But they had them, and intended to keep them.

The US, unaware of Japanese lack of ambition for further conquest, feared Japanese occupation meant Alaska proper would be next. When Japan began constructing an airfield on Kiska (to better defend it), it confirmed Allied suspicions. Assisted by Canada, the US rushed reinforcements in, occupied and fortified Adak, and planned to retake Attu and Kiska. Even if US fears were wrong, pride was involved, and the US wanted its territory back.

Dutch Harbor after the Japanese raid on 4 June 1942. The attack on Dutch Harbor and subsequent occupation of Attu and Kiska thrust the US and Japan into an Aleutian campaign neither wanted to fight. (USNHHC)

Geography offered further challenges. Dutch Harbor, then the US's westernmost Alaska Territory base, was 400nm east of then-unoccupied Adak. Kiska was 200nm west of Adak, and Attu 150nm west of Kiska. Paramushiro, Japan's nearest naval base was 800nm from Kiska. Shimushu, the island that held Japan's nearest airfield and harbor, was 624nm from Attu. The theater of action crossed the International Date Line, and so it was

always a day earlier in Attu, Kiska, Adak, and Dutch Harbor than Paramushiro and Shimushu.

It took two days steaming for either side to reach their foe, the US from Dutch Harbor, Japan from Paramushiro. Even with US airfields at Adak and Japanese at Shimushu, the distances, weather, and winter darkness meant ships, not aircraft, held sway (especially since the air garrisons at those spots were army units, unused to attacking targets at sea).

The US had to hunt Japanese transports attempting to supply and reinforce Attu and Kiska with surface warships. Japan had to protect those transports with a heavy warship escort. Inevitably, they would meet.

THE SHIPS

Except for the light cruisers, the warships at Komandorski were designs resulting from three naval limitations treaties of the 1920s and 1930s: the 1922 Washington Naval Treaty, the 1930 London Naval Treaty, and the 1936 Second London Naval Treaty. Both the US and Japan signed the first two treaties, and though the Second London Treaty was signed by the US and Great Britain, Japan abandoned it.

The Washington Treaty forbade further construction of battleships and limited the tonnage of cruisers to 10,000 tons. It also limited the maximum size of guns carried on cruisers to an 8in (203mm) bore. It did not limit the number of guns, or the armor carried; the displacement limit served that purpose. All heavy cruisers and the two older Japanese destroyers conformed to the Washington Treaty.

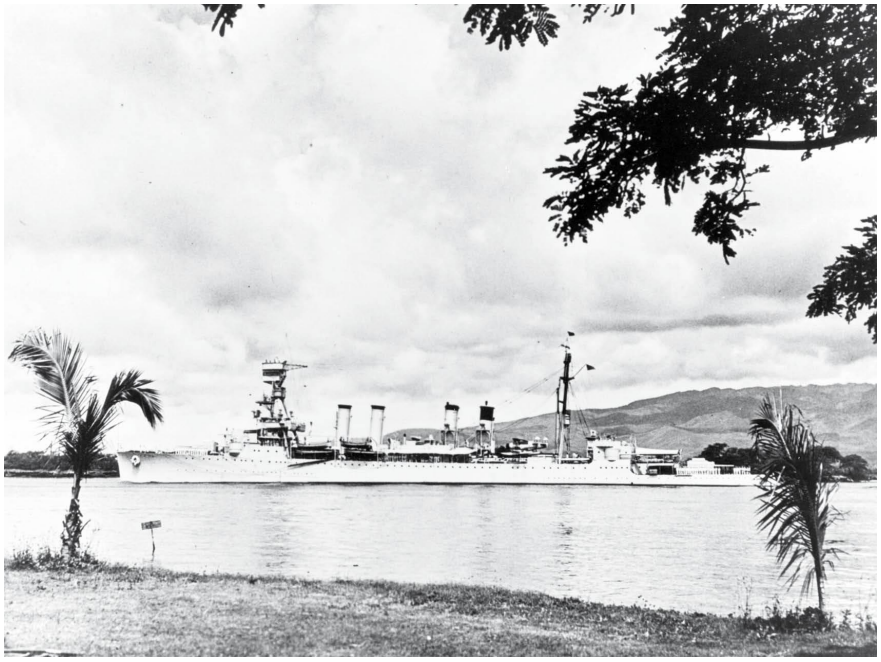
The 1930 London Naval Treaty affected four destroyers present; the two newest Japanese and two oldest US destroyers were built following this treaty. It limited the maximum displacement of destroyers, and capped the total tonnage of destroyers and cruisers each navy could maintain. Although the four destroyers were roughly the same size, the London Treaty meant the Japanese destroyers were smaller than their immediate predecessors, while the US destroyers were larger.

The Second London Treaty extended the terms of the First London Treaty until 1942. Effectively it only remained in force until 1938 and was abandoned entirely when World War II broke out. The two newest US destroyers present were designed under provisions of this treaty.

The three light cruisers pre-dated the Washington Treaty, and their design was unaffected by any treaty. The London treaties could have affected their existence due to cumulative cruiser tonnage limitations, but the US never reached its cruiser tonnage limits while Japan ignored them.

United States Navy ships

Two US Navy cruisers were at Komandorski: heavy cruiser *Salt Lake City* and light cruiser *Richmond*. Both belonged to the oldest class of their type of warship in the US Navy; *Salt Lake City* was the younger of the two-vessel Pensacola class, *Richmond* was the sixth of ten Omaha-class cruisers.



Light cruiser *Richmond* in the 1930s. It belonged to the last set of US Navy cruisers whose design was unaffected by naval limitations treaties of the 1920s and 1930s. Originally intended as a large scout cruiser, by World War II it was obsolescent. (USNHHC)

Richmond's design dated to 1916, a classic scout cruiser design. Scout cruisers were lightly armored, fast, and long-ranged, intended to scout ahead of the battle line and lead destroyer flotillas in torpedo attacks during a surface action. They were multi-mission ships. As built, *Richmond* carried minelaying racks and sonar in addition to guns and torpedo tubes.

For their day they were large. Most light cruisers of 1915–19 displaced 4,000–5,000 tons. The Omahas displaced half as much again, 7,100 tons. They were heavily armed: 12 6in guns, two 3in antiaircraft guns and ten 21in torpedo tubes and they were fast, having a top speed of 35 knots. *Richmond* cruised at 20 knots, with an unrefueled range of 4,970nm at that speed and 8,400nm at 10 knots.

Laid down before the Washington Treaty, the Omahas were heavily armored for their size, with a 3in belt and 1.5in deck, conning tower, and

bulkhead armor. Four of their main guns were in turrets; six in tiered casemates, the last casemate-mounted guns on any US warship.

Service however proved the design too ambitious. Mines and mine racks were removed early (also eliminating the ability to drop depth charges). The lower pair of aft casemate 6in guns and lower torpedo tubes were removed later, leaving *Richmond* with ten 6in guns and six torpedo tubes. Two aircraft catapults and six more 3in antiaircraft guns were added in the late 1920s. During a final refit before Komandorski, in January 1943, two twin 40mm and two twin 20mm antiaircraft guns were added. By then it had three radars: an SK air search radar, an SG ground search radar, and a Mark 4 fire-direction radar.

The Pensacola class was the first US cruiser designed after the Washington Treaty was signed. It was intended to displace 10,000 tons, with an 8in gun as main battery, and was an attempt to build the largest and most heavily-armed cruiser permissible under the terms of the treaty, which led to some very odd design features.

One of two Pensacola-class cruisers, *Salt Lake City* was the first cruiser design conforming to the 1922 Washington Treaty. Originally classified by the US Navy as a light cruiser, it was reclassified as a heavy cruiser due to the 1930 London Treaty. (USNHHC)

They carried ten 8in guns in four turrets; 2x2 and 2x3. To keep the hull as fine as possible, the superfiring turrets had three guns. The smaller two-gun turrets were the lead and aftermost turrets, permitting a narrower hull at those locations. This arrangement raised the center of gravity (CG), reducing stability. It was a flush-deck design (to reduce hull weight) with a low forecastle. Low freeboard and high CG made the Pensacolas poor sea boats,

subject to heavy rolling. *Salt Lake City*'s crew called it "Swayback Maru" as a result.

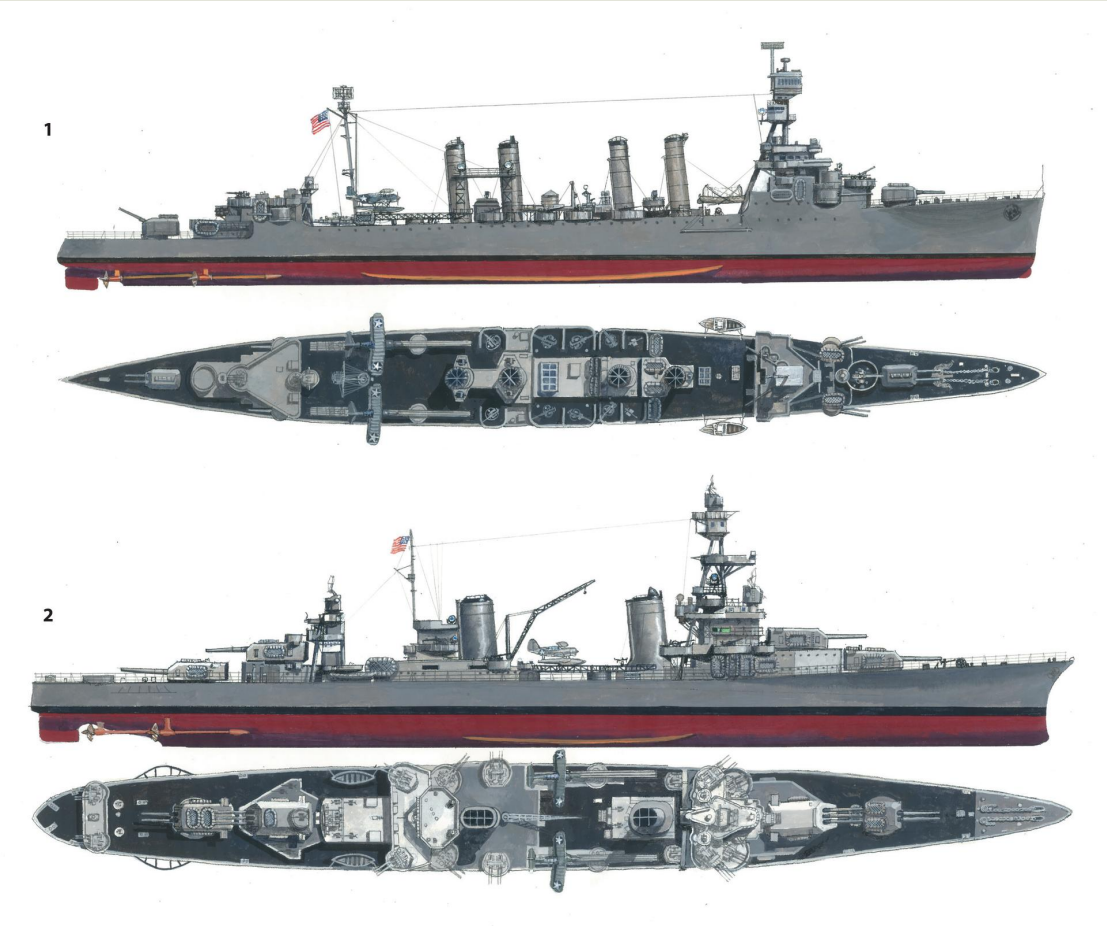
USN CRUISERS	
USS *Salt Lake City* (CA-25)	
Displacement:	9,100 tons
Dimensions:	585.5ft x 65.25ft x 22ft
Propulsion:	4 × Parsons steam turbines (4 shafts), 8 Foster-White boilers, 107,000shp
Speed:	32 knots
Crew:	81 officers, 1,054 enlisted
Armor:	2.5–4in belt, 1–2.5in bulkheads, 1–1.75in deck, 0.75–2.5in gun houses and barbettes, 1.25in conning tower
Armament:	10 × 8in/55 guns (2x2, 2x3), 8 × 5in/25 DP guns (8x1), 24 x 40mm AA (6x4), 19 x 20mm AA (19x1), 2 catapults, 2 floatplanes
USS *Richmond* (CL-9)	
Displacement:	7,400 tons
Dimensions:	556.5ft x 55.3ft x 20ft
Propulsion:	4 Parsons steam turbines (4 shafts), 12 Yarrow 285psi boilers, 90,000shp
Speed:	35 knots
Crew:	64 officers, 750 sailors
Armor:	3in belt, 1.5–3in bulkheads, 1.5in deck, 1.25in conning tower
Armament:	10 × 6in/53 guns (2x2, 6x1), 8 × 3in/50 AA guns, 4 x 40mm AA (2x2), 4 x 20mm AA (4x1), 6 × 21in torpedo tubes (2×3), 2 catapults, 2 floatplanes
(All values are for March 1943)	

It could reach 32.5 knots and, built for Pacific distances, it had a range of 5,000nm at 20 knots, and 7,000nm at 15 knots. As built, it carried the ten 8in guns, four 5in/25 antiaircraft guns and two triple 21in torpedoes. *Salt Lake City* also had two aircraft catapults and could carry four floatplanes, although it lacked aircraft hangars.

It went through several rebuilds prior to Komandorski. The torpedo tubes were landed in the 1930s, and four additional single 5in/25 guns installed, increasing its secondary armament to eight 5in/25 guns. Damaged at the Battle of Cape Esperance in October 1942, it underwent four months of repairs at Pearl Harbor. It left the dockyard in February 1943 with six quad 40mm Bofors and 19 20mm Oerlikons in single mounts. It had four different radars aboard, an SC long-wave search radar, two Mark 3 fire control radars for its main battery, and a Mark 4 fire control radar for its secondary battery.

The four destroyers at Komandorski represented the start and finish of US Navy destroyer designs influenced by naval treaties. *Dale* and *Monaghan* belonged to the Farragut class, the first class of US destroyers built after the First London Treaty. *Bailey* and *Coghlan* were part of the Benson-class, ships built after abandonment of the Second London Treaty, but using a design meeting that treaty's requirements.

A USS *RICHMOND* (CL-9) AND USS *SALT LAKE CITY* (CA-25)



Richmond (1) belonged to the last class of US cruisers designed before naval limitations treaties constrained design; *Salt Lake City* (2) was in the first class designed after the Washington Treaty. *Richmond* represented the 1920 US Navy's true desire for a light cruiser; larger and more heavily armed than its contemporary opponents, much smaller than future treaty limits. *Salt Lake City* was an attempt to build the largest cruiser possible within treaty limits. Both began as light cruisers, classified as such due to the light armor both carried. *Salt Lake City* was re-rated as a heavy cruiser due to the First London Treaty.

USS *Dale*, DD-353 (left), and USS *Monaghan*, DD-354 (right), both belonged to the Farragut class, the first US Navy destroyers built under the 1930 London Treaty. They represented a significant improvement over their predecessors, the Clemson class. (USNHHC)

The Farraguts were the successors to the flush-deck destroyers, the Caldwell, Wickes, and Clemson classes mass-produced during and immediately after World War I. So many were built that the Navy did not consider building replacements for nearly a decade after the last Clemson-class destroyer was commissioned. Although the Farragut design was limited by the First London Treaty, they were larger and more capable than their predecessors, with significant improvements in destroyer design.

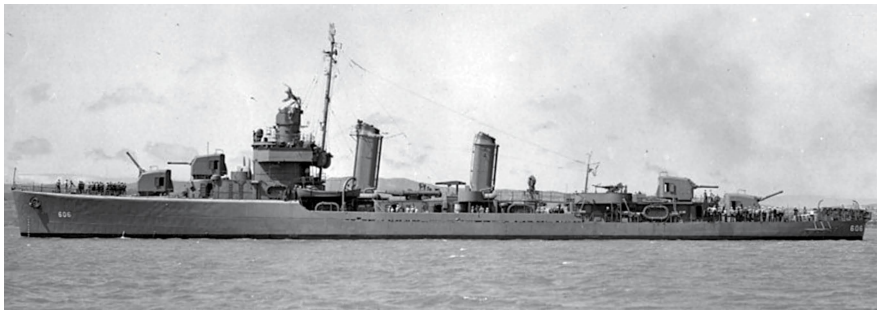
They were 150 tons heavier and 30ft longer. Better sea boats, they had a raised forecastle and tighter turning circle. With a top speed of 37 knots, they were 3 knots faster, and had a better-arranged and more powerful main battery: five 5in guns in a centerline mount, yielding a broadside of five guns. They carried two quad 21in torpedo tubes, again mounted centerline. They were the first US warships to mount the excellent 5in/38, a dual-purpose gun equally effective against aircraft and ships. Outfitted with sonar when built in 1932–34, they lacked depth charge racks.

They went through several refits during their first decade. Depth charge racks, omitted to reduce weight for treaty reasons, were added in 1936. After

World War II started, light guns and radar were added. By Komandorski, both *Dale* and *Monaghan* had lost their number 3 5in gun, replaced by two twin 40mm Bofors. Five 20mm Oerlikons replaced the four 0.50cal machine guns present when built. An SC search and a Mark 3 fire control radar had also been added. These changes made the ships top-heavy, even with one less 5in turret. They were less stable than later US destroyer designs.

The Benson class, represented by *Bailey* and *Coghlan* at Komandorski, were at the chronological end of treaty influence. They, along with the follow-on Gleaves class, were the last US Navy destroyers affected by interwar naval treaties. They represented nearly a decade of design refinement. They displaced 1,620 tons, with the same top speed as the Farraguts, and the same length. The extra volume was due to a wider beam, improving stability.

As built *Bailey* had five 5in/38s in turrets, two quintuple torpedo tubes, six .50cal machine guns, and two depth charge racks. By 1942 aircraft and submarines were more dominant in naval warfare and resources to fight them were increased at the expense of resources to fight surface warships. *Bailey* had one 5in turret and one torpedo mount removed, replaced with two twin 40mm Bofors, seven 20mm Oerlikons, and more depth charges. *Coghlan*, one of the later ships in the class, was built with armament identical to *Bailey*'s. By Komandorski both ships had SC search and Mark 3 fire control radar. It was original equipment on *Coghlan*.



USS *Coghlan*, DD-606, along with USS *Bailey*, belonged to the Benson class. *Coghlan* was one of 24 "repeat Bensons," built after the original six to increase US Navy destroyer numbers when World War II began in 1939. Shown in July 1942 after commissioning, it had just four main turrets, but with radar and additional antiaircraft guns. (AC)

The Bensons had one other innovation missing in all other destroyers present: alternating firerooms and engine rooms. Introduced in the Benson class it was retained on all future US Navy destroyer construction. The

firerooms and engine rooms of the other destroyers (and all Japanese cruisers) were adjacent to each other, typically with the firerooms forward and the engine rooms aft (to reduce shaft length). A hit rupturing two compartments in the machinery spaces had a two-thirds chance of flooding both engine rooms or both firerooms, leaving the ship without power. Alternating engine rooms and firerooms guaranteed at least one of each was available.

Imperial Japanese Navy ships

Imperial Japan had four cruisers at Komandorski: heavy cruisers *Nachi* and *Maya*, and light cruisers *Tama* and *Abukuma*. As with the US, the light cruisers pre-dated the Washington Treaty, while the heavy cruisers post-dated the Washington Treaty and pre-dated the First London Treaty.

Tama and *Abukuma* followed light cruiser design and function established before World War I. Like *Richmond* they were intended as scouts, destroyer leaders, and fast minelayers. Both were designed prior to World War I and *Tama*, the oldest ship present, was laid down during World War I. They represented traditional light cruiser design, displacing 5,100 and 5,500 tons respectively, with light armor protecting the machinery spaces.

As built, both carried a main battery of seven 14cm/50 (5.5in) guns, four twin 53.3cm (21in) torpedo tubes, two 80cm/40 secondary guns and 48 mines. Five of the main guns were mounted centerline, while two guns and all torpedo tubes were in wing mounts giving a total broadside of six guns and four torpedoes. Japan laid down many of this class of warship prior to the Washington Treaty. *Tama* was one of five Kuma-class light cruisers and *Abukuma* the sixth and final Nagara-class cruiser.

These ships went through little modification prior to the Pacific War, despite weak antiaircraft defenses. Both had catapults added, carrying one floatplane; torpedo tubes were replaced with tubes carrying 610cm (24in) torpedoes; the four twin-mounts were replaced by two quad mounts. *Tama* had no further upgrades, but *Abukuma* had a refit in December 1942 when the Number 5 140mm was removed and replaced by two triple-mount 25mm antiaircraft guns.

IJN *Tama* was one of two Japanese light cruisers at Komandorski. Like *Richmond*, its design predated the Washington Treaty. It is shown early in its career, in 1925 off the Hawaiian Islands. (USNHHC)

Nachi and *Maya* were the Japanese heavy cruisers at Komandorski. *Nachi* belonged to the Takao class, the first-generation of Japanese cruisers supposedly built to the limits of the Washington Treaty. While violating treaty tonnage limits, they kept within treaty limits on weaponry. It proved a better sea boat than the Pensacolas, largely because of the extra tonnage.

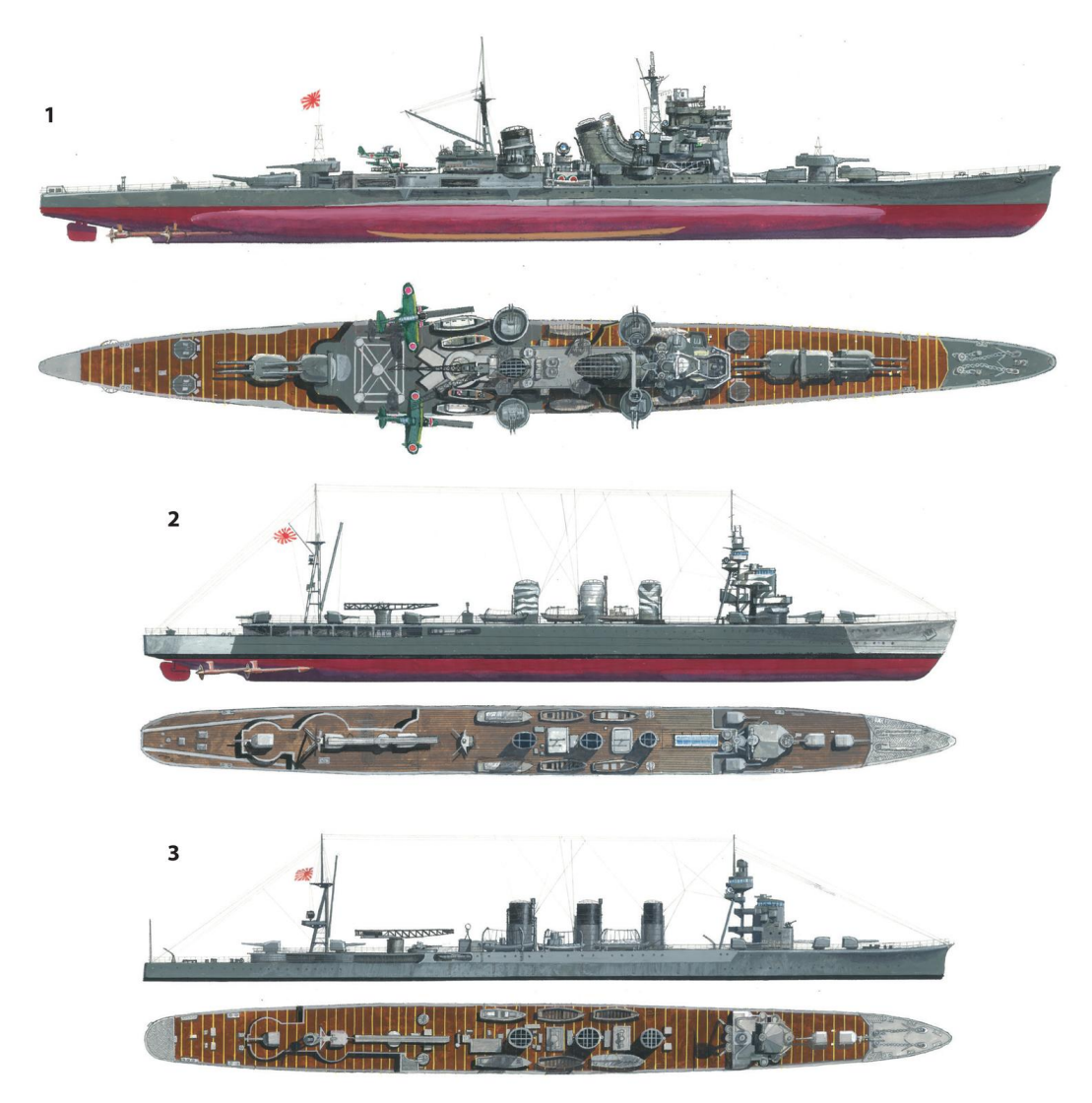
IJN CRUISERS	
Myoko-class heavy cruiser *Nachi*, Takao-class heavy cruiser *Maya**	
Displacement:	14,960 [14,000] tons
Dimensions:	668.5ft x 68ft x 21.75ft
Propulsion:	4 Kampon geared steam turbines (4 shafts), 12 Kampon 427psi boilers, 130,000 [133,000] shp
Speed:	34 knots
Crew:	100 officers, 1,100 enlisted
Armor:	3.9in (100mm) belt, 1.5in (37mm) deck, 0.98in (25mm) turrets, 3in (75mm) barbettes
Armament:	10 × 203mm (8in/50) guns (5x2), 8 × 127mm (5in/40) DP guns (4x2), 8 x 25mm AA (4x2), 16 61cm torpedo tubes (4x4), 2 catapults, 2 [3] floatplanes
* The two classes were virtually identical, except the Takao class was 6in longer, with a subsequent increase in tonnage. Where differences exist, *Maya*'s value is in square brackets []	
IJN Kuma-class light cruiser *Tama*	
Displacement:	5,500 tons
Dimensions:	532ft x 46.75ft x 15.75ft
Propulsion:	4 Gihon geared steam turbines (4 shafts), 12 Kampon 370psi boilers, 90,000shp

Speed:	36 knots
Crew:	450 sailors
Armor:	64mm (2.5in) belt, 29mm (1.1in) deck
Armament:	7 × 140mm (5.5in/50) guns (7x1), 2 × 76.2mm (3in/40) AA guns (2x1), 8 × 610mm (24in) torpedo tubes (2×4), 48 mines, 1 catapult, 1 floatplane
IJN Nagara-class light cruiser *Abukuma*	
Displacement:	5,570 tons
Dimensions:	534.75ft x 48.42ft x 16ft
Propulsion:	4 Gihon geared steam turbines (4 shafts), 12 Kampon 370psi boilers, 90,000shp
Speed:	36 knots
Crew:	64 officers, 750 sailors
Armor:	64mm (2.5in) belt, 29mm (1.1in) deck
Armament:	6 × 140mm (5.5in/50) guns (6x1), 2 × 76.2mm (3in/40) AA guns (2x1), 6 x 25mm AA guns (2x3), 8 × 610mm (24in) torpedo tubes (2×4), 1 catapult, 1 floatplane
(All values are for March 1943)	

Like the Pensacolas, attempting to stay within treaty weight limits left the hull structure too light. This created vulnerability to storm damage and gunnery accuracy issues. Despite that drawback, the Imperial Navy liked the design so much they virtually repeated it with the Myoko class, to which *Maya* belonged.

As built, *Nachi* had ten 200mm (7.9in)/50 guns and *Maya* ten 203mm (8in)/50 guns arranged in five centerline twin turrets, as well as six 120mm (4.7in) antiaircraft guns, two 40mm antiaircraft guns, and 12 53.3cm torpedo tubes in four triple mountings. *Nachi* was as poorly armored as *Salt Lake City*, with a 100mm (3.9in) belt, 37mm (1.5in) deck, and 25mm (0.98in) turret armor. *Maya* was similarly armored, but had a 127mm (5in) belt. Both had a top speed of 35.5 knots. They had two catapults, carrying up to three floatplanes. *Nachi* was commissioned in 1928, *Maya* in 1932.

B IJN HEAVY AND LIGHT CRUISERS



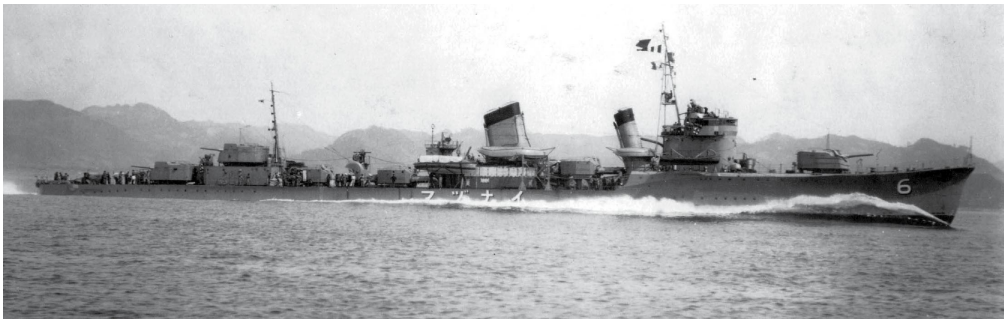
As with the US cruisers, the Japanese cruisers present represented the effects of the interwar naval limitations treaties. The light cruisers were designed before the treaties existed, while the heavy cruisers were the first generation designed after the first treaty entered force. They were significantly larger and more powerful than the Furitaka/Aoba class designed before the Washington Treaty. The illustration shows (1) *Nachi*, (2) *Tama*, and (3) *Abukuma*.

IJN *Nachi* was one of four Takao-class cruisers built after the Washington Treaty. Originally built with a 200mm (7.9in) main battery and four triple 533mm torpedo tubes, prior to World War II it had been up-gunned and carried 203mm (8in) guns and four quadruple-mount 610mm torpedo tubes. (USNHHC)

Both experienced extensive rebuilds in the mid-1930s. *Nachi*'s 200mm guns were pulled and 203mm guns substituted. The 53.3cm torpedo mounts were replaced with four quad 62cm torpedo tubes. In addition to the 16 torpedoes in the tubes, they carried 18 reloads. The secondary antiaircraft armament was landed, replaced with eight 127mm (5in)/40 antiaircraft guns. By Komandorski, the 40mm guns were landed, replaced with eight 25mm antiaircraft guns in four twin mountings.

The design of the four Japanese destroyers at Komandorski, Akatsuki-class *Inazuma* and *Ikazuchi* and Hatsuhara-class *Hatsushimo* and *Wakaba*, were directly affected by the Washington and First London Treaties. The Akatsuki-class ships were part of a series of "special" destroyers intended to skirt the intention of the Washington Treaty while remaining within the letter of it. The Hatsuharas pulled away from that design due to the London Treaty.

The special destroyer was Japan's attempt to cram a small pre-World War I light cruiser's capabilities into a 2,000-ton hull. These cruisers typically displaced 3,000–4,000 tons, carrying torpedoes and a main battery of six to eight 4in to 5in guns. The Washington Treaty put no limit on fast warships (capable of speeds in excess of 20 knots) which displaced 2,000 tons or less and guns smaller than 127mm (5in). In the mid-1920s (before aircraft became reliable scouts) Japan saw special destroyers as a way to increase scouting capabilities beyond those permitted by treaty cruiser limitations.



IJN *Inazuma* was Japan's attempt to cram a small light cruiser's armament into a destroyer's hull. These "special" destroyers were designed for surface combat. Part of the Akatsuki class, it improved on the Fubuki class with higher-pressure boilers. (AC)

The result was the Fubuki class. These ships had a top speed of 38 knots, carried six 127mm guns in three twin turrets, and nine 61cm torpedo tubes in three triple mounts. They carried reloads for the torpedoes. They could steam 5,000nm at 14 knots. All this was carried in a hull displacing 1,750 tons. As built, they were structurally weak and dangerously unstable. The hull was strengthened and ballasted, raising the displacement to 2,050 tons (reported as 2,000 tons).

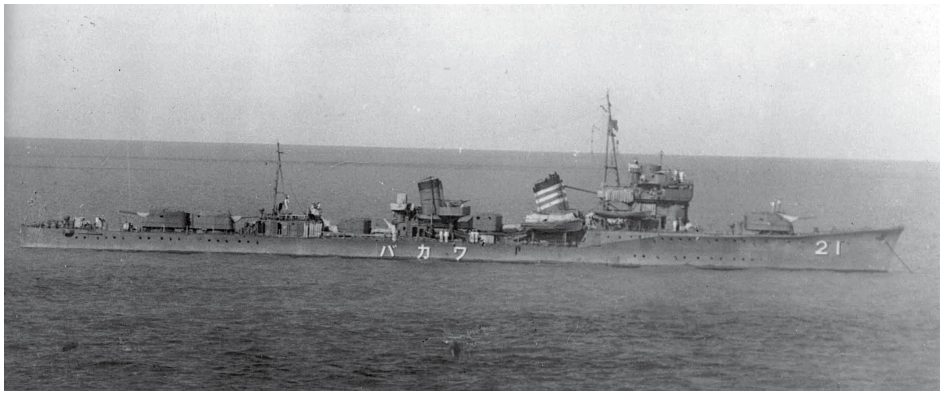
The design sacrificed antiaircraft and antisubmarine capability to optimize performance against surface ships. They carried only 20 depth charges. The main guns fired and trained too slowly to serve as antiaircraft guns. They only carried two machine guns for use against aircraft. Despite these drawbacks, the Japanese Navy loved the design. Twenty-four special destroyers were built between 1926 and 1933, in three subcategories.

The Akatsuki class was the final subclass, consisting of four ships, including *Inazuma* and *Ikazuchi*. The main difference between these and the earlier Fubukis was the use of a new boiler design, with a higher operational pressure. This allowed three boilers to provide the same power as the four boilers in the earlier ships, an important weight-saving measure. They were the first all-welded destroyers in the Imperial Navy, and went through the same reconstruction in 1935–37 as the rest of the Fubukis to improve stability and hull strength. By Komandorski, the original 7.7mm machine guns had been replaced by 12.7mm machine guns, and two single-mount 25mm guns added.

The Hatsuhara class immediately followed the Akatsuki class. It was a retrograde design, forced on Japan by the First London Treaty and economic pressure. The First London Treaty required 85 percent of the tonnage a nation allocated to destroyers to consist of ships of 1,500 tons or less. It prevented

Japan from building more special destroyers. Instead, Japan built the Hatsuharas.

They were inferior to the Fubukis – smaller, slower, and with less armament. On paper, and when launched, they displaced 1,510 tons. They were ten meters shorter and half a meter narrower than the Fubukis. Their engines generated one-sixth less power. Their range was 4,000nm at 14 knots, four-fifths of the Akatsukis. Their top speed was 36 knots. They carried five 127mm guns in three turrets; a twin turret forward and a single turret and twin turret aft. They had two triple 61cm torpedo tubes, two single 40mm antiaircraft guns, and only 18 depth charges. They carried six spare torpedoes. They were built between 1931 and 1933.



IJN *Wakaba*, along with *Hatsushimo*, had its design affected by the First London Treaty. Smaller and less capable than special destroyers, they were also less capable than their US counterparts, the Farragut class. (AC)

As with the Fubukis, the Imperial Navy went to extreme lengths to keep weight down. *Hatsushimo* and *Wakaba* both went through major rebuilds in the late 1930s to strengthen and stabilize them, and both ships had a final refit in late 1942 when the 40mm guns were replaced with twin 25mm antiaircraft guns.

The Japanese heavy cruisers and destroyers at Komandorski shared similar strengths and weaknesses. All had structural and stability issues, and had minimal antiaircraft capability, especially light antiaircraft guns. Their antisubmarine capabilities were similarly minimal. However, at Komandorski, none of that mattered. It was a surface action, where main guns and torpedoes counted. It was the fight for which all Japanese ships present had been designed and built.

TECHNICAL FACTORS

Weaponry

Guns

The primary weapons at Komandorski were naval guns, for one of the last times in history. The most effective were the 8in main batteries mounted by opposing heavy cruisers. The two Japanese heavy cruisers each mounted ten 50cal 3rd Year Type 20cm guns. *Salt Lake City* had ten Mark 9 8in (203mm)/55 guns. The Japanese guns had a barrel length of 10m (making it 50cal, the length/bore ratio) while the US Mark 9 was 46.4in (1.4m) longer, yielding a 55cal weapon. The US design was older, entering service with the Pensacolas in 1927. By 1943 they were replaced by more modern versions on later US cruisers, but not *Salt Lake City*. The 3rd Year, introduced in 1932, replaced an earlier 1923 8in design installed on *Nachi* during 1930s' refits, and as built on *Maya*.

Both guns fired armor-piercing and high-capacity (or common) rounds. The 3rd Year Type fired slightly heavier rounds, 125.85kg (277.4lb) versus the 118kg (260lb) rounds fired by the Mark 9. While both were effective weapons, the older Mark 9 may have been the better gun due to smaller dispersions and slightly better armor penetration than the 3rd Year Type. Both though could hit targets up to 31,000yds away, and penetrate any armor possessed by their opponents in this battle within 23,000yds.

The forward 8in main gun turrets of the *Maya*. During the battle, 8in guns were the only weapons that did any substantial damage, including damage to their own ship. (USNHHC)

Richmond carried a main battery of Mark 18 6in/53 guns, upgrades from the Mark 12s installed when originally built. They fired a 47.6kg (105lb) shell up to 25,000yds. At ranges greater than 21,000yds fire was generally ineffective. An armor-piercing shell existed, but was not issued in World War II. *Richmond* only carried Common (HE) or SP Common at Komandorski. (SP Common had a reinforced nose and was semi-armor piercing.)

Japanese light cruisers had main batteries of 50cal 3rd Year Type 14cm guns. It fired a 38kg (83.8lb) high explosive shell with a maximum range of 22,500yds. It was ineffective at that range, and was generally used within 15,000yds. It had a rate of fire of six to ten rounds per minute.

Both nations' destroyers had 5in main batteries, and both sides' heavy cruisers had 5in secondary batteries. Japanese destroyers mounted the 50cal 3rd Year Type 12.7cm gun. It had a muzzle velocity 20 percent and a kinetic energy nearly 50 percent greater than the Mark 12 5in/38, used on US destroyer guns. It had a much slower rate of fire – five to ten rounds per minute instead of the 5in/38's 15 to 22 rounds per minute.

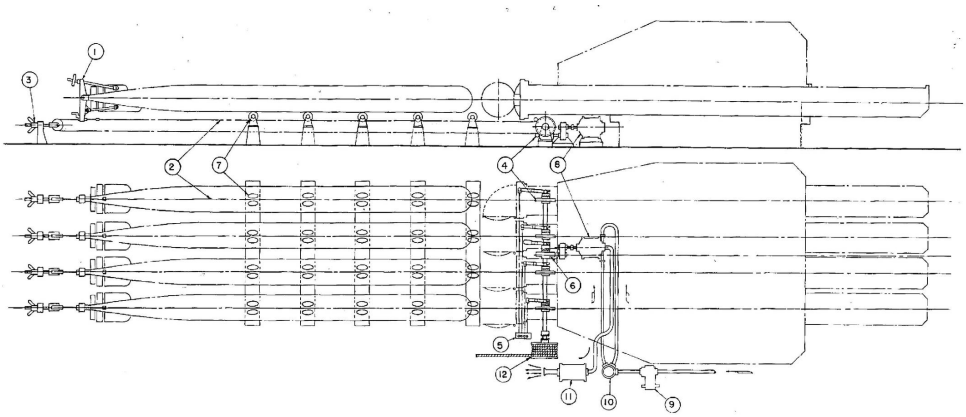
The 3rd Year Type 12.7cm could not be loaded when elevated about ten degrees, making it useless against aircraft and reducing its rate of fire against distant targets. It outranged the 5in/38 by 2,000yds (20,200yds to 18,200yds), however at any range greater than 10,000yds the 5in/38 could fire four rounds to every round the 12.7cm shot. Additionally, the Japanese gun only fired HE rounds which weighed 23kg (50lb). The 5in/38 had a 25kg (55lb) SP Common round, capable of penetrating 2in armor at 11,000yds.

The antiaircraft batteries the heavy cruisers carried were the 40cal Type 89 12.7cm guns for the Japanese and the 5in/25 (12.7 cm) Mark 13. Both were intended as antiaircraft guns, although both were also effective against surface targets. The Japanese 12.7cm gun had a maximum range of 16,185yds (14,800m) with a 23.45kg (51.7lb) HE round, while the 5in/25 could reach 14,500yds (13,260m) with a 23.49kg (54lb) HE shell. These antiaircraft guns, as well as the 3in (76mm) antiaircraft guns carried by *Richmond* and the Japanese light cruisers, played little part in the battle.

Torpedoes

While torpedoes scored no hits at Komandorski, they strongly influenced the battle. All Japanese warships carried torpedoes; five of six US Navy warships present also did. The torpedoes carried by the two sides were dramatically different.

Japanese warships carried the 61cm (24in) Type 93 Model 2 torpedoes. This was the famous "Long Lance" torpedo. (The name was never used during World War II, being coined by Samuel Eliot Morison post-war.) It was 9m (354in) long with a diameter of 61cm. It weighed 2,700kg (5,952lb) with a 490kg (1,080lb) warhead. Fueled with a kerosene-oxygen mixture, it was fast and long-ranged. Set at 520hp it ran 21,900yds (20,000m) at 48–50 knots. At 300hp it reached 3,500yds (32,000m) at 40–42 knots; at 200hp it ran 43,700yds (40,000m) at 36–38 knots. It was the world's best torpedo, and Japanese warships carried many of them.



An overhead and side view of the Type 92 torpedo mount used on Japanese cruisers and destroyers. They held four Type 93 torpedoes, and were designed to be reloaded under combat conditions. (AC)

US destroyers and USS *Richmond* carried the Mark 15 torpedo, which entered service in 1935. The torpedoes at Komandorski were 6.88m (22ft 7in) long, with a 53.3cm (21in) diameter, and weighed 1,559kg (3,438lb) with a 224kg (494lb) warhead. It was the world's shortest-ranged surface warship torpedo. Set at 45 knots, its maximum range was 6,000yds (5,500m); at 33 knots 10,000yds (9,150m); at 26.5 knots 15,000yds (13,700m). It also had a propensity for premature explosions or not to explode at all. Problems with the exploders, discovered in 1942, were not fixed until late 1943.

Radar

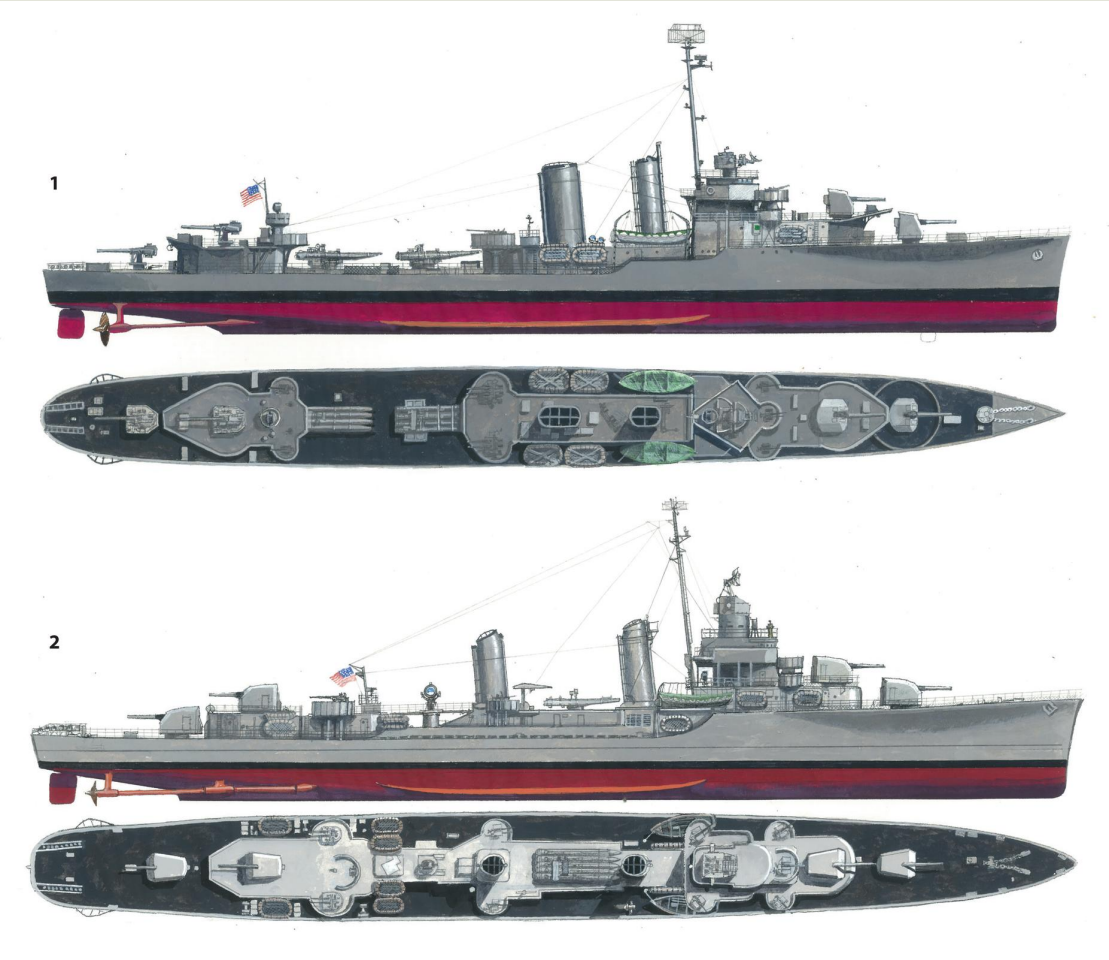
USN DESTROYERS	
Farragut class: USS *Dale* (DD-353), *Monaghan* (DD-351)	
Displacement:	1,500 tons
Dimensions:	341.25ft x 34.25ft x 15.5ft
Propulsion:	2 Parsons geared steam turbine (2 shafts), 4 Yarrow 400psi boilers, 42,800shp
Speed:	36.5 knots
Crew:	10 officers, 250 sailors
Armament:	4 x 5in/38 DP guns (4x1), 4 x 40mm AA guns (2x2), 5 x 20mm AA guns (5x1), 8 × 21in torpedo tubes (2×4), 2 depth charge racks, 4 K-gun depth charge throwers
Benson class: USS *Bailey* (DD-492), *Coghlan* (DD-606)	
Displacement:	1,620 tons
Dimensions:	348.3ft x 36.08ft x 19.7ft
Propulsion:	2 Westinghouse geared turbines (2 shafts), 4 Babcock & Wilcox 600psi boilers, 50,000shp
Speed:	37.5 knots

Crew:	10 officers, 266 sailors
Armament:	4 x 5in/38 DP guns (4x1), 4 x 40mm AA guns (2x2), 7 x 20mm AA guns (7x1), 5 × 21in torpedo tubes (1×5), 2 depth charge racks, 4 K-gun depth charge throwers
(All values are for March 1943)	

One advantage the US had over Japan was all US Navy ships at Komandorski had radar, while none of the Japanese ships did. Radar allowed enemy ships or aircraft to be spotted regardless of visibility, frequently an issue in the Aleutians. *Salt Lake City* first had radar installed in 1940. All four destroyers had SC search radars. Even ancient *Richmond* had microwave SG radar.

SC radar had an air search range of 30–70nm, a surface search range of 15nm, and an accuracy of +200yds. SG radar, used as a surface search radar, had a range of 15nm. It had an accuracy of +100yds. Gunnery control radars were even more accurate, +40yds. Within their range, a minimum of 1,000yds to a maximum of 28,000yds (13.8nm), they could spot the fall of shells. (The maximum range depended on the height of the antenna. Destroyers had a maximum range of 16,000yds due to shorter masts than cruisers or battleships.) Mark 4 gunnery control radar could target aircraft or ships.

C FARRAGUT AND BENSON-CLASS DESTROYERS



While adhering to the First London and (for the Benson class) Second London Treaties, these US destroyers were capable warships. Balanced designs, they could fight other surface warships and serve anti-submarine and anti-aircraft roles. Fast, good sea boats, they had outstanding range, but the designs were compromises. While not the “best” destroyer in any one role, they qualified as second-best in all. Lessons learned building and operating them were used in wartime construction of the Fletcher, Allen B. Sumner, and Gearing classes. Poor quality US Navy torpedoes compromised their effectiveness in surface combat. The artwork shows the designs for (1) USS *Dale* and *Monaghan* and (2) USS *Bailey* and *Coghlan*.

Structure

The ships at Komandorski, except the light cruisers, were products of the naval limitation treaties of the 1920s and 1930s.This put a premium on keeping the structure as light as possible to stay within treaty limits. (All light cruisers present pre-dated these treaties. All essentially used World War I-era designs. Their structure was analogous to pre-war scout cruisers.)

The antenna for a Mark 3 fire control radar mounted on the forward main gun director of *Salt Lake City*. One weakness of radar fire control in 1943 was radar information did not go directly to the guns – instead, information was sent to the Combat Information Center and was orally relayed to the plotter aiming the gun. (USNHHC)

Salt Lake City, part of the Pensacola class, the first US Navy cruiser design under treaty limitations, suffered first-design problems. It had a low freeboard, to reduce hull weight, yielding poor seakeeping characteristics – its bow was easily swamped in rough seas. Combined with light scantlings (to reduce weight), steaming through stormy waters at high speeds risked structural damage. Due to design errors, it came in underweight – 900 tons

under the intended 10,000 ton displacement – weight that could have been applied to armor or structure.

Nachi and *Maya* were the earliest classes of IJN cruisers built to treaty standards. Although Japan cheated (both exceeded 10,000 tons when built), they kept the hull structure of both ships light to make claims they displaced only 10,000 tons plausible. Their hulls were less rigid than they should be, making them flex when their main batteries fired. This caused wide shot dispersion and loss of gunnery accuracy when built. The ships went through two rebuilds in the 1930s, including improving hull rigidity, raising the total displacement 1,080 tons. However, this did not completely cure flexing, an issue only resolved completely after Komandorski.

The four US destroyers present represented the very first and very last treaty-limited destroyers. The two Farragut-class destroyers were the first destroyers designed to 1930 London Treaty rules. They were good designs, combining the robust hull strength of the flush deck classes, but improving seakeeping with a raised forecastle. As built, they had excellent stability. The Benson-class destroyer, the final design constrained by the 1936 London Treaty, represented the final development of the 1930s' destroyer hull design. With increased scantlings, they were rugged and reliable. Wartime modification added topside weight, reducing the stability of both classes. In March 1943 they lacked the later modifications which made them dangerously top-heavy.

All the first-generation US and Japanese heavy cruisers shared structural weakness due to weight-saving attempts to keep the design within the limitations of the Washington Treaty. This included both the Myoko and Takao classes. *Nachi* and *Ashigara* (shown) were members of the Myoko Class; *Maya* belonged to the Takao class. (AC)

The two Akatsuki-class destroyers at Komandorski improved the Fubuki design. They had all-welded construction to reduce weight, the first Japanese destroyers so built, but suffered from the same limitations as the earlier destroyers. They were top-heavy, structurally weak, and lacked longitudinal strength. The Hatsuhara-class destroyers were 1930 London-treaty designs, limited to 1,500 tons. To cram the greatest armament possible into the hull, structural strength was skimped. Weight-saving measures included then-experimental electrical welding and scantlings lighter than those in previous designs, but spaced more closely. They were shallower-draft vessels, which exacerbated stability problems. Both classes required extensive rebuilds in the late 1930s to improve stability and hull strength. These added 300 tons to the design.

A US Navy warship under construction at Bethlehem Steel's Staten Island Shipyard during World War II. US Navy destroyers starting with the Farragut class had excellent hull strength, and rugged and reliable designs. (USNHHC)

Machinery

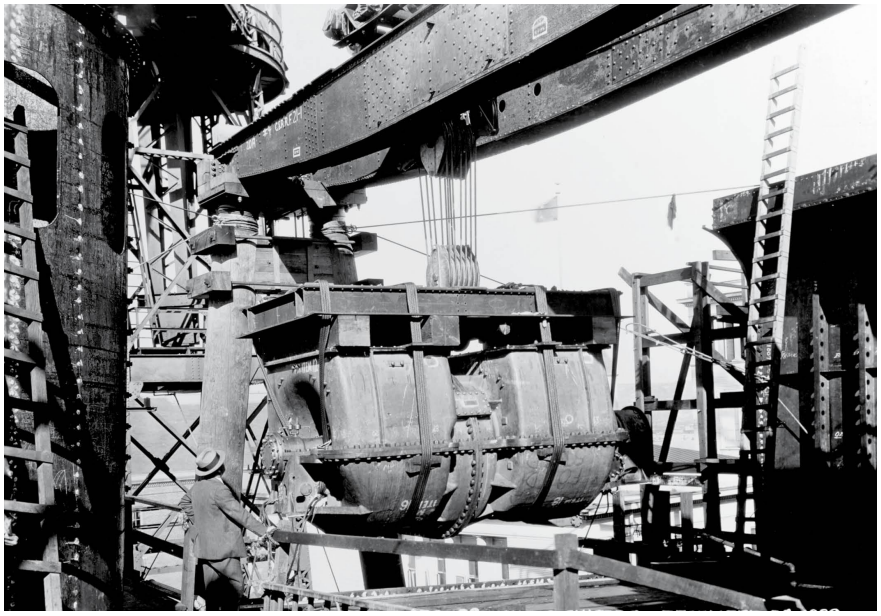
The warships at Komandorski all used oil-fired boilers driving geared steam turbine engines. (The two Japanese transports escorted by the Japanese warships had marine diesels.) Introduced in the 1890s, steam turbines replaced the reciprocating steam engine on warships.

Marine boilers were initially coal-fired, but even before World War I oil was supplanting coal on fast warships. Oil had a higher specific energy (energy per unit mass). For every ton of fuel burned, bunker oil delivered one-third more energy than anthracite coal. Oil could also be pumped into the boilers, whereas human stokers fed coal into the boilers. By the mid-20th century, the oil-fired marine steam turbine offered the best combination of high power, low weight, and fuel efficiency then available.

The cruisers all had four steam turbines, each driving a separate propeller shaft. The destroyers had twin-engine, twin-propeller arrangements. All used reduction gearing to reduce the high speeds at which the turbines turned to the slower rotation needed by the propellers.

The United States Navy primarily used Parsons geared steam turbines for ships built in the 1920s and 1930s. By the late 1930s, with the ramp-up to World War II, the US Navy added other manufacturers, including Westinghouse. Japan used Gihon turbines in their light cruisers and destroyers, switching to Kampon turbines for their heavy cruisers. Both US and Japanese turbines were developments of steam turbines originally developed by Parsons during the 1890s in England.

There were differences, though, in the boilers each side used. The greater the temperature and the higher the pressure a boiler reached, the greater power it produced per unit mass of fuel, creating greater fuel economy. Less fuel was required as boiler efficiency increased. During the 1920s and 1930s the United States and Japan had a boiler development race, which Japan initially led, but the United States finally won.



While diesel engine warships were appearing, the period from 1920 to 1960 was the steam turbine era. All warships at Komandorski were propelled by marine steam turbines, like the one shown here. It is being installed in a US Navy cruiser in the late 1920s. (USNHHC)

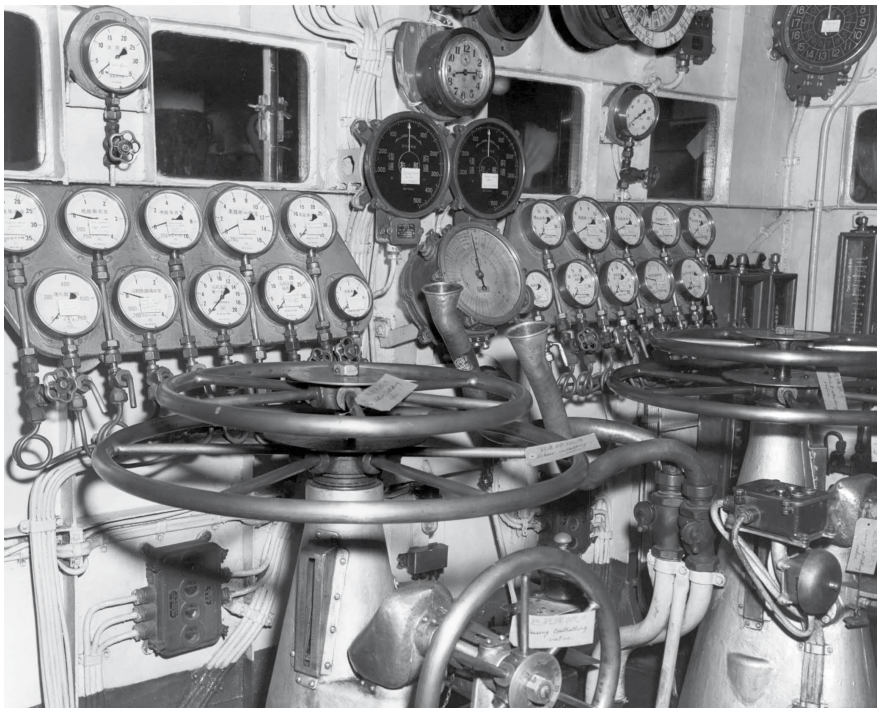
Richmond, the oldest ship in the US force, had boilers operating at 285psi. The two Benson-class destroyers, built in the 1940s' had boilers which operated at 600psi. By contrast, the Japanese light cruisers used 370psi boilers while the heavy cruisers and destroyers had 427psi boilers. Japan standardized on the 427psi boiler in 1930 and continued using 427psi boilers thereafter.

Ships' machinery also included auxiliary generators, diesel generators to provide electrical power if the engines were out. The US Navy began installing them in the 1930s and the Farraguts were the last class of destroyer built without them. However, except for the Bensons and possibly *Richmond*, none of the warships at Komandorski had them. All the cruisers present and all the destroyers (of both sides) were built before auxiliary generators were standard equipment. After the Battle of Savo Island in August 1942, the US Navy began installing two 100kw generators on cruisers lacking them. *Salt Lake City* had not had them installed prior to the battle, though *Richmond* might have during its December 1942 refit.

Damage control

Damage control is one of the most overlooked factors in naval warfare. Yet the ability to cope with or repair damage in combat often decides who wins

and who loses. At Komandorski it played a major role. The greatest peril to a warship at sea was flooding and fire. Flooding could sink a ship or render it unstable; fire would consume it. Battle increased the possibility, but both threats were always present, even outside combat.



The engine control room of a Japanese destroyer shows the valves and gauges required to run the steam plant on a warship. This room allocated boiler-generated steam to the engines, dynamos, and auxiliary applications. (USNHHC)

Damage control capability can be measured two ways: available physical resources and crew capability. The former includes both design features such as compartmentalization and damage control equipment (pumps, firefighting equipment, and emergency generators), whereas crew capability represents the crew's ability to use available damage control equipment effectively. It also depends on a crew's ability to diagnose problems and to improvise solutions.

IJN DESTROYERS	
Akatsuki class: IJN *Inazuma*, IJN *Ikazuchi*	
Dimensions:	388.75ft x 34.08ft x 10.5ft
Propulsion:	2 Gihon geared steam turbine (2 shafts), 3 Kampon 427psi boilers, 50,000shp
Speed:	34 knots

Displacement:	2,050 tons
Crew:	10 officers, 223 sailors
Armament:	6 x 127mm (5in/50) guns (3x2), 2 x 25mm AA (2x1), 2 x 13mm AA machineguns (2x1), 9 × 610mm (24in) torpedo tubes (3x3), 2 depth charge racks, 18 depth charges
Hatsuhara-class: IJN *Hatsushimo*, IJN *Wakaba*	
Dimensions:	359.25ft x 32.8ft x 11.08ft
Propulsion:	2 Gihon geared steam turbine (2 shafts), 2 Kampon 427psi boilers, 42,000shp
Speed:	38 knots
Displacement:	1,530 tons
Crew:	10 officers, 223 sailors
Armament:	5 x 127mm (5in/50) guns (2x2, 1x1), 2 x 25mm AA (2x1), 2 x 13mm AA machineguns (2x1), 6 × 610mm (24in) torpedo tubes (2x3), 1 depth charge rack, 18 depth charges

Effective damage control required electricity. Except for a few low-capacity hand pumps, all fire mains, fuel pumps, and drain pumps were run by electricity or boiler steam. Likewise, lighting assisted damage control efforts, making damage visible. Lights also ran off electricity. The dynamos normally ran off the steam plant, however. Unless a ship had backup generators, once the main engines went out so did electricity. For ships without backup generators, losing engines started a race to restart them since pumps could not run without the engines. Failing to restart them or taking too long to restart them left fire and flooding run unchecked until they could no longer be contained.

Whether damage or damage control won that race depended on the quality of the crew's damage control response, which in turn depended on crew training, the amount of damage control drills conducted, individuals' knowledge of ship systems, mechanical aptitude, and individual initiative shown by damage control teams. Postwar assessment by US Navy intelligence teams evaluated Imperial Japanese Navy damage control organization, training, and equipment inferior to those of the US Navy and the Royal Navy.

The damage control locker from a World War II US Navy warship. The wooden cones on the top two rows plug shot holes. Below them are shoring timbers, to reinforce bulkheads stressed by water on the other side. To the left are damage control tools. (AC)

There were several reasons for this disparity. The US Navy put more damage control equipment into its ships, whereas Japan preferred to give weight allocated for these systems over to offensive weapons. Furthermore, the US equipment was qualitatively better; not much, but enough to provide extra capability.

The real difference however lay in crew capability. In the mid-20th century the US was more mechanized than Japan, with its population having greater familiarity and aptitude with machinery due to greater exposure. US Navy petty officers and chiefs, the backbone of damage control efforts, had greater authority and autonomy than their Japanese counterparts. Moreover, US sailors had greater encouragement to exercise initiative, whereas Japanese sailors were expected to follow orders. Taken together, it meant US crews had

a small, but decisive advantage over their Japanese opponents, one yielding a significant edge to the US in battle.

Charles H. McMorris as a vice admiral. At Komandorski he was a new rear admiral. Prior to the Pacific War he served as operations officer for the Pacific Fleet, where he developed aggressive war plans. At Komandorski his aggressiveness was tempered with caution. (USNHHC)

THE BATTLE

Rear Admiral Thomas C. Kinkaid took command of the US North Pacific Force in January 1943. He immediately began planning to evict Japan from Attu and Kiska, starting with an invasion of Kiska. Forced to postpone the invasion, due to the Casablanca Conference, Kinkaid set about isolating the Japanese-held islands and had Amchitka, an island 50nm east of Kiska, occupied in early January. He also set about isolating the Japanese-held islands by sea.

Accompanying Kinkaid was Rear Admiral Charles Horatio McMorris. Self-described as "the ugliest officer in the Navy," his US Naval Academy nickname was Soc (for Socrates) due to his intelligence. Kinkaid gave McMorris command of the small task force of surface ships the Navy had in the Aleutians, heavy cruiser *Indianapolis*, light cruiser *Richmond* and four destroyers. McMorris deployed his force aggressively.

On 18 February, during one of his sweeps, he bombarded Attu. He then split his force to seek out Japanese ships in the area. *Indianapolis* and its escorts encountered *Akagane Maru*, a 3,100 ton transport carrying supplies, including munitions, to Attu. It was quickly sunk, the first Japanese transport intercepted by US Navy surface warships in Alaskan waters.

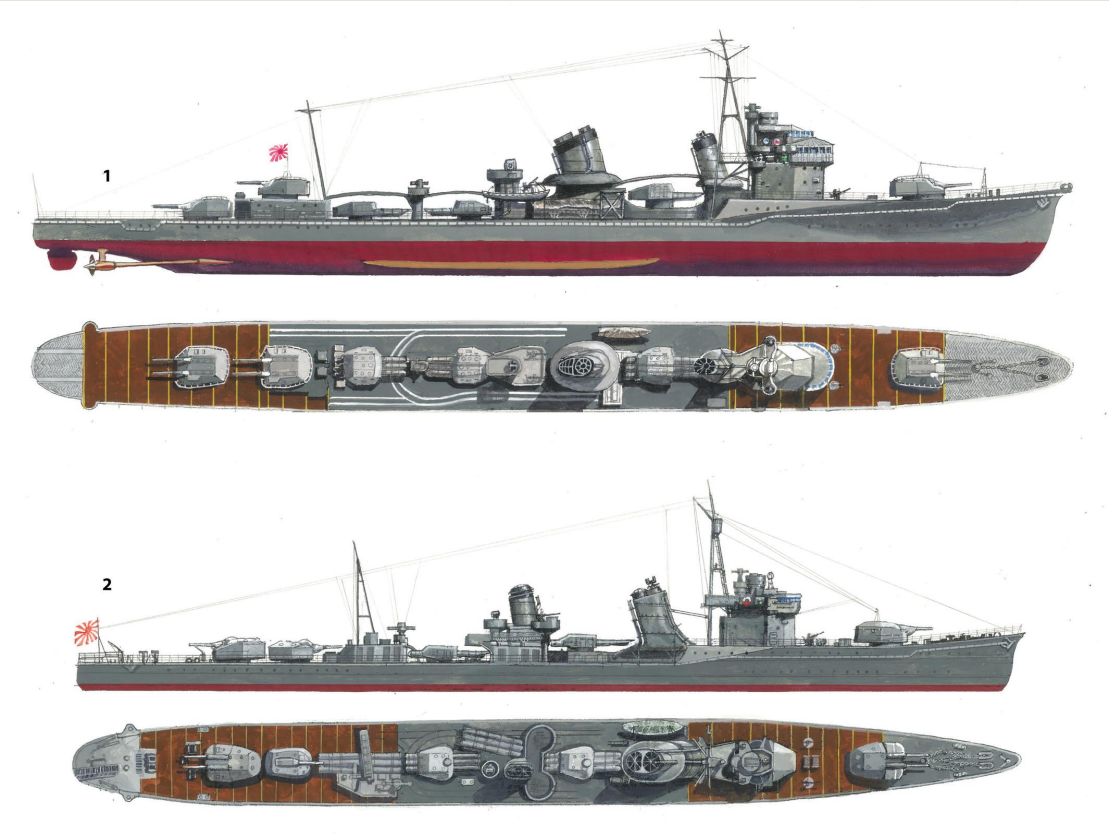
Two other unescorted merchantmen were sunk by Army Air Force bombers in January, both in harbor. With the loss of *Akagane Maru,* Vice Admiral Hosogaya Boshirō, commanding the Fifth Fleet and Japan's Northern Area Force, immediately suspended sending unescorted merchantmen to Attu and Kiska. He also asked for reinforcements and was sent *Maya* in March. Both islands needed supplies, including material to complete the still-unfinished airfields on both. Hosogaya decided to run the blockade and, on 9 March, he successfully escorted a convoy to Attu.

Departures: 21–22 March to 26–27 March

Nearly two weeks later Hosogaya tried again, with three transports: 4,900-ton *Sanko Maru*, 7,400-ton *Asaka Maru,* and 7,100-ton *Sakito Maru*. The former,

a slow vessel, capable of cruising at 12 knots in 1937 when built, could make only 10 knots by 1943. The other two, fast transports, could reach 19 knots. Deeply laden *Sanko Maru*, carried a cargo of food, ammunition, and construction material. *Asaka Maru*, outfitted as a troop transport, had 550 men aboard to reinforce the Attu garrison. *Sakito Maru* carried antiaircraft guns, food, ammunition, and lumber.

D AKATSUKI AND HATSUHARA-CLASS DESTROYERS



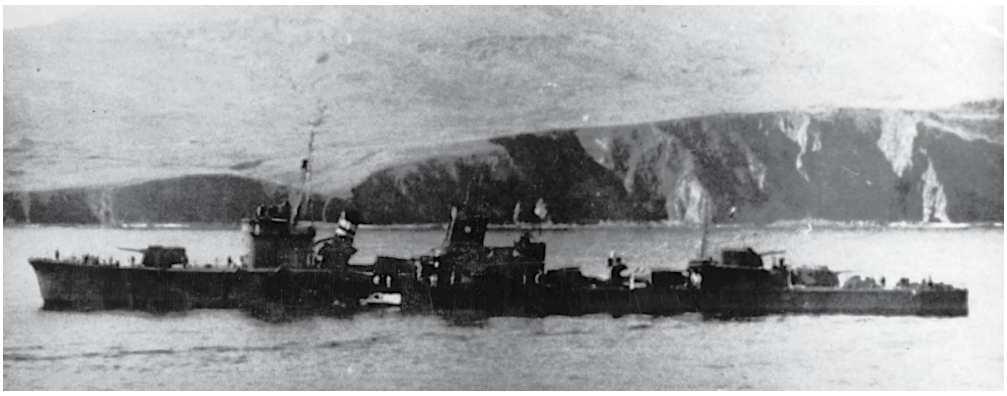
The Akatsuki class (1) was Japan's attempt at cramming a small light cruiser's offensive capability into a destroyer's hull. The resulting "special" destroyer design would have benefitted from a hull larger than permitted for a destroyer. Staying within treaty limits yielded a structurally weak, top-heavy ship. The follow-on Hatsuhara destroyers (2) were downsized Akatsukis. They lacked the punch of the earlier Akatsukis, but were still formidable. While optimized for surface combat, the destroyers were ineffective during the Battle of the Komandorski Islands due to the extreme range at which it was fought. They could use neither their guns nor torpedoes as effectively as they did during close-range night actions.

The differing speed of the ships caused them to depart at different times. *Sanko Maru*, escorted by Fubuki-class destroyer *Usugumo* left Kataoka, a port on Shimushu, on 23 March. *Asaka Maru* and *Sakito Maru*, escorted by *Abukuma*, *Inazuma*, and *Ikazuchi*, departed Kataoka the morning of 24 March. Late that afternoon, *Nachi*, *Maya*, *Tama*, *Hatsushimo*, and *Wakaba* left port. All groups would rendezvous on 26 March 60nm south of the Soviet-owned Komandorski Islands, before moving east in a group. The spot was west of the area patrolled by US Navy PBY Catalinas, so therefore the ships would join before facing US aircraft.

On 16 March, McMorris in *Richmond*, with *Bailey* and *Coghlan* was refueling at Adak. Back at sea the next day, he had orders to patrol northwest of Attu as far west as 168 degrees East Longitude (roughly as far east as the westernmost Komandorski Island) to intercept Japanese shipping heading to Attu. US Naval Intelligence, reading Japanese radio traffic, knew a convoy was sailing, and when it was sailing. Its presumed destination was Attu. *Maya*'s presence, however, was unknown since it was maintaining radio silence.

A Japanese floatplane spotted McMorris's ships southwest of Kiska shortly after noon on 21 March, reporting the US presence to shore. Attu passed the contact to Hosogaya, preparing to depart. (The Japanese were west of the International Date Line, where it was March 22.) The rest of McMorris' force joined him the next day due south of Attu. These were the newly arrived *Salt Lake City*, accompanied by *Dale* and *Monaghan*. The cruiser, fresh from a Pearl Harbor refit, replaced the departed *Indianapolis*, arriving at Dutch Harbor on 17 March, leaving 19 March to join McMorris. At noon on 22 March, Task Group 16.6 (the official designation of McMorris's force) plunged east seeking the enemy transports.

On 24–25 March (depending on which side of the International Date Line your clocks were set) a fierce Arctic storm swept through. It washed *Salt Lake City*'s forward life rafts away, and damaged its starboard catapult. At the storm's peak, TG16.6 slowed to 10 knots, preventing structural damage. Likewise, the storm delayed the slow, heavily-laden *Sanko Maru*, forcing it to miss the rendezvous. The groups with *Asaka Maru* and *Sakito Maru* and escorts, and Hosogaya's heavy cruisers, successfully linked up at 1600hrs (by Japanese clocks) on 26 March. By local time it was 1900hrs, an hour to sunset.



The IJN destroyer *Akatsuki* in Attu's harbor during the early part of the Aleutian campaign. Resupplying Attu was the reason for sending the convoy escorted by Hosogaya's warships. (USNHHC)

Sakito Maru was one of two fast transports escorted by Hosogaya's warships in the Attu convoy. It carried antiaircraft guns to bolster the islands' air defense, lumber for buildings, and food and ammunition for the garrison. This is a pre-war photo of the transport. (AC)

Hosogaya was unconcerned. If *Sanko Maru* did not arrive before it went dark, it would be spotted next morning. No Japanese ship had radar, so visual contact was necessary, though this was almost impossible at night, even with a three-quarter moon. Instead, he would mark time around the rendezvous site until his final two ships joined up. He therefore changed the rendezvous to 0600hrs on 26 March, radioing the change to his two missing ships.

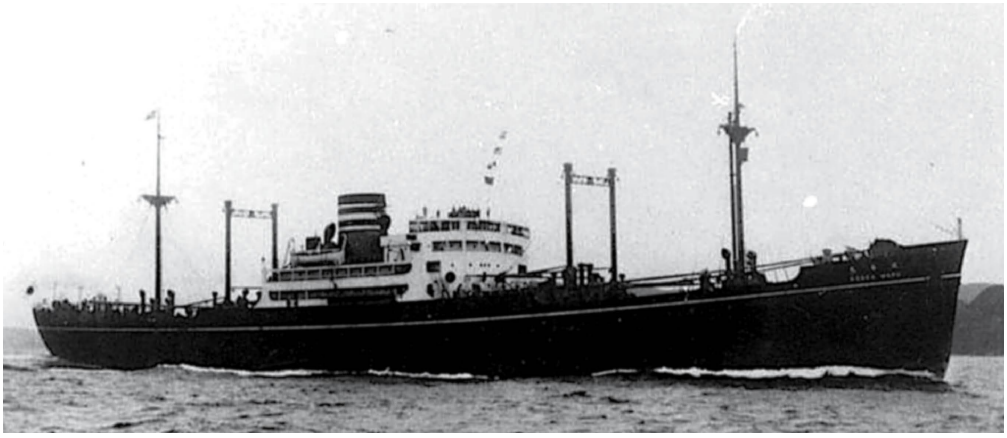
His ships steamed up and down a 60nm north–south line awaiting *Sanko Maru* and *Usugumo* through the predawn hours of 26 March. Lookouts maintained a careful watch, especially after midnight. The ten ships were in a line, *Nachi* in the lead. Behind it was *Maya,* followed by *Tama*, *Wakaba*,

Hatsushimo, *Abukuma*, *Ikazuchi*, *Asaka Maru*, and *Sakito Maru*. *Inazuma* brought up the rear.

Contact (0520–0640hrs Greenwich+12, 26 March 1943)

Nautical twilight, when observers can see the horizon, began at roughly 0430hrs on 26 March off the Komandorski Islands. By 0520hrs objects, such as ships on the horizon, can be seen, and during that period, Hosogaya's patience was seemingly rewarded. The fleet at the southern limit of its search line was countermarching north. At 0513hrs, as *Akasa Maru* steadied on a northern course, a lookout reported a mast on the horizon to the south. Initially it was presumed to be from the missing *Sanko Maru* or *Usugumo*.

The single mast became two ships, as expected. Then their numbers grew. Two minutes after initial contact, *Inazuma* identified the ships as enemy warships, signaling the contact to its flagship, *Abukuma*. *Abukuma*'s watch proved inattentive, taking 15 minutes to relay the message to *Nachi*, Hosogaya's flagship. By then, five US warships were visible, including a cruiser, but Hosogaya did not know enemy warships were present until 0530hrs.



Asaka Maru, the second transport in the convoy, first spotted the US warships. It reported seeing ships at 0513hrs, but word did not get passed to Hosogaya until 0530hrs. Among those aboard *Asaka Maru* was the Attu garrison's new commander. (AC)

The US ships spent the predawn hours in a scouting line, ships spaced six miles apart, a search line 30nm long. Radar reached out 15 miles from each ship, allowing the formation to cover 1,600nm^2 of ocean. *Coghlan* led, followed by *Richmond*, *Bailey*, *Dale*, *Salt Lake City*, and *Monaghan*. McMorris knew a convoy was out there, and he wanted it.

At 0530hrs local time (0730hrs by the US warships' clocks), *Coghlan* spotted three contacts on its radar, most likely *Asaka Maru, Sakito Maru*, and *Inazuma*. *Coghlan*'s officer of the deck reported the sighting to *Richmond* using talk-between-ships (TBS), a radio telephone used by US Navy warships. Almost simultaneously, *Richmond*'s radar found two contacts. *Richmond*'s captain, Ralph Milsap, ordered the ship to general quarters, the crew being awake and having just finished breakfast when the call came. McMorris ordered his ships to concentrate on *Richmond.* The unknown contacts were Japanese, almost certainly the convoy they sought.

Simultaneously, Hosogaya was readying his force for battle. He signaled the merchantmen to the northwest, detailing *Ikazuchi* and *Inazuma* to accompany them. He wanted the transports out of harm's way, and Japanese sailors went to battle stations. Operating on Tokyo time, three hours before local time, they were still in their hammocks and bunks. Hosogaya ordered the rest of his ships to follow *Nachi*. Turning to the southeast to position his ships between the US squadron and the US bases to the east, he wanted to force a fight.

E OPENING THE BALL

At 0640hrs (local time) Admiral Hosogaya gave the command to open fire. *Nachi* and *Maya* fired two full broadsides, ten 8in guns each, at *Richmond*. Both Japanese ships were combat veterans with *Nachi* having participated in the Battle of the Java Sea, and *Maya* having sunk a warship during the Java Sea campaign and fought in the Solomon Islands in the last half of 1942.

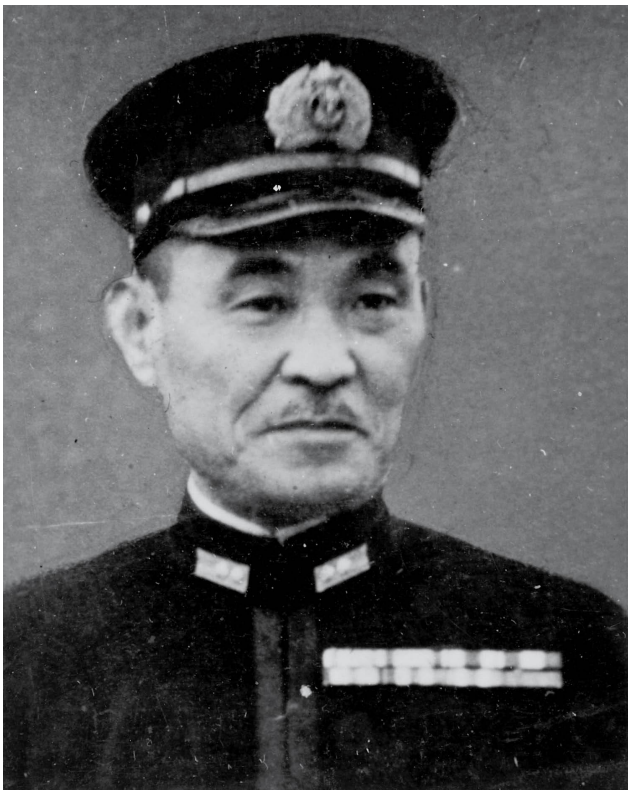
Their performance demonstrated their experience. The guns open fired at range 21,000–21,500yds. The first salvo was correctly aimed but fell short; the second salvo was dead on. *Richmond* was bracketed by that salvo – 8in shells landing on either side of the US flagship. It was as close to perfect as could be, except none of the shells fired by either cruiser actually hit *Richmond*.

Aboard *Richmond* near-misses shook the ship. Many aboard believed *Richmond* had been hit and damage control teams were dispatched to locate and repair damage. The only damage found was an antenna cut by one of the “overs.” The issue was not lack of skill by the Japanese, it was lack of luck.

A hit on the flagship could have sealed a Japanese victory, but *Richmond*’s luck continued. Realizing *Richmond* was the lesser target, *Maya* shifted its aim to the bigger

Salt Lake City. Its third and subsequent salvos headed toward the sole US heavy cruiser present. Meanwhile, *Nachi* suffered an engineering failure, cutting power to its turret traverse motors and ammunition hoist motors. Its main battery fell silent until power was restored. This illustration shows the result of *Maya*'s second salvo, splashing around Richmond without hitting it.

Both forces were eager for a fight and both felt they had surprised their foe, neither realizing the other side was aware of them. The US ships spent the next minutes closing into a tight battle formation. *Bailey* took the lead, followed by *Coghlan*; *Richmond* fell in behind *Coghlan*, trailed by *Salt Lake City*, *Dale*, and *Monaghan*. The Japanese warship began their turn southwest, led by *Nachi* with the remaining ships, except for *Ikazuchi* and *Inazuma*, in their original order. The two destroyers were shepherding the transports to the northeast.



Vice Admiral Hosogaya Boshirō, commanded the Japan's Fifth Fleet and Northern Area Force. He took personal charge of the convoy, using the cruiser *Nachi* as his flagship. (USNHHC)

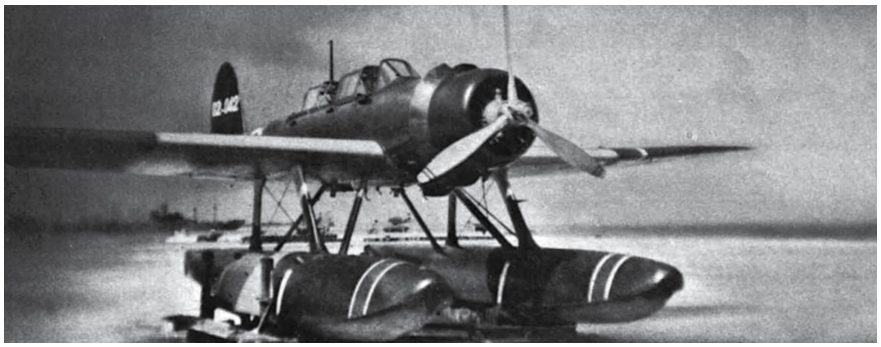
Both sides brought cold boilers online in preparation for battle. (To conserve fuel, cruising ships routinely kept some boilers cold, rotating them while at sea. Only when battle was expected were all boilers lit off.) In the brightening skies, as the sun broke above the eastern horizon, the US lookouts visually identified the initial three radar targets as two transports and a destroyer, the convoy they sought. They were on the horizon, 14nm from

the lead destroyer. At 0617hrs McMorris radioed a plain language contact report, picked up in Adak.

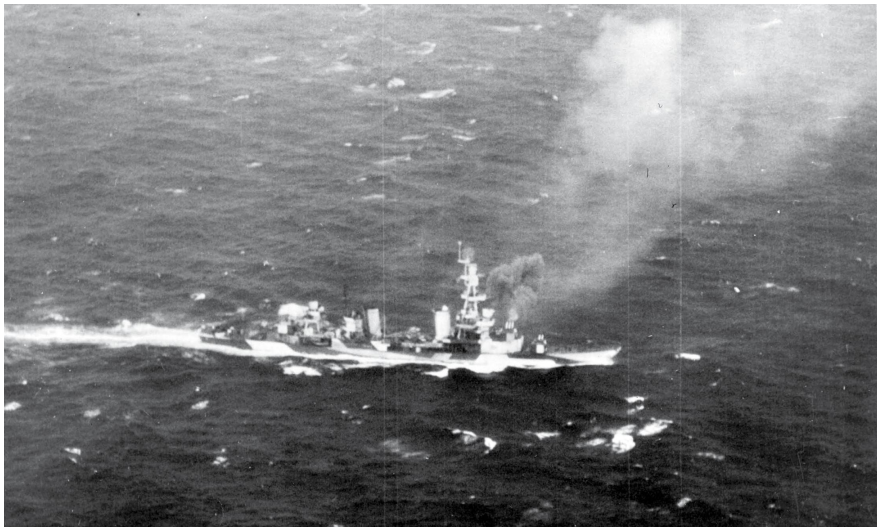
At 0620hrs masts of four more Japanese ships were spotted. At 0624hrs *Richmond* identified ten contacts. Two minutes later *Salt Lake City* identified the enemy as two heavy cruisers, two light cruisers, and six destroyers. US confidence turned into unease. McMorris's force was outnumbered by nearly 2:1, and even when *Salt Lake City* corrected the report to four destroyers, it was still long odds.

The Japanese were going through the same exercise. Their lookouts initially identified their enemy as one heavy cruiser, one light cruiser, and five destroyers. As it brightened, they improved it, reporting four destroyers. Both sides now knew the pieces on the table.

When *Asaka Maru* and *Sakito Maru* passed the turning point for the Japanese warships and continued northeast, Hosogaya recalled *Ikazuchi* and *Inazuma*. They fell in at the end of the Japanese battle line. He also ordered speed increased to 25 knots and ordered *Nachi* to launch seaplanes. (It was the only warship in the fleet carrying them. The rest had been landed.) *Nachi* had only two of its three seaplanes aboard; the third, ashore, was undergoing maintenance.



Hosogaya ordered floatplanes launched to conduct gunnery spotting. Only *Nachi* carried floatplanes. One, a Nakajima E8N, was destroyed by blast from *Nachi*'s 8in guns. Only the Aichi E13A, like the one shown here, was launched, the last cruiser floatplane used to spot gunnery in a surface naval engagement. (AC)



While *Nachi* fired the first broadside of the battle, *Salt Lake City* drew first blood landing a hit with its third and fourth salvos. It accomplished this by firing just its forward 8in guns. (USNHHC)

Although badly outnumbered, McMorris saw the transports had separated from the warships. The warships were moving southwest while the transports moved northeast. He thought it possible to reach and destroy the transports before the enemy warships could intervene. Doing so would place the Japanese battle line between himself and his bases – he would have to fight afterwards to reach home. Ordering speed increased to 25 knots, he turned to follow the transports.

The two forces were approaching each other at 50 knots. The range between the nearest cruisers, *Nachi* and *Richmond* was extreme, 20,000yds (18,000m). At 0640hrs the battle was begun.

Opening (0640–0700hrs, G+12)

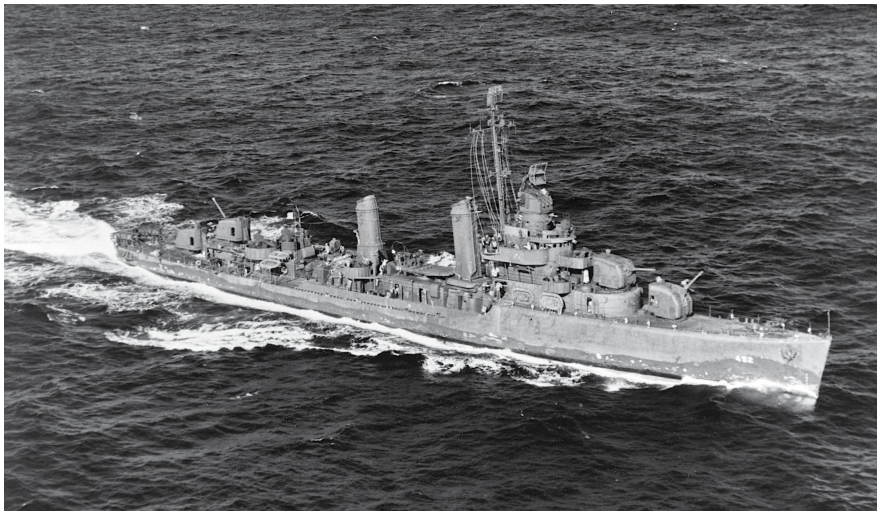
At 0640hrs *Nachi* and *Maya* opened fire, firing three salvos at their target, *Richmond*. The first, with the correct bearing, was short by 1,000yds; the second salvo straddled *Richmond*, shaking the ship so badly that its crew thought it was hit; the third shifted to *Salt Lake City*, recognized as the greater threat.

The salvos did no substantive damage to the US ships. The blast from *Nachi*'s four after 8in guns damaged the still-unlaunched aircraft on its own starboard catapult. A two-seat Nakajima E8N (Allied codename "Dave"), it was rendered unflyable. Furthermore, fueled with gasoline, it was jettisoned

as a fire hazard. (Later that day its upturned float was spotted by US lookouts, who thought they had shot down a spotting plane.)

At 0642hrs McMorris gave the order to open fire. Both *Richmond* and *Salt Lake City* targeted *Nachi*, the lead ship in the column. *Salt Lake City* was 21,000yds from *Nachi*, close enough for both sides' 8in shells to penetrate the thickest armor of their opponent. *Richmond* was 1000yds closer, barely within range for its 6in guns to be effective. Its second salvo was a straddle.

The approaching *Salt Lake City* could only fire its forward guns. It made good practice, hitting *Nachi* with its third and fourth five-gun salvo. Landing two hits on *Nachi*, one fell forward of the bridge, the other struck the after end of the bridge, starting a major fire. *Nachi*'s guns fell silent almost immediately afterwards, and the Americans thought they had inflicted heavy damage, perhaps taking *Nachi* out of the fight.



When the Japanese light cruiser *Tama* took *Richmond* under fire, *Bailey* (shown) began firing on *Tama* hoping to take some of the attention away from *Richmond*. *Tama* ignored *Bailey*, but failed to hit *Richmond*. (USNHHC)

The fire, however, was soon brought under control, and the silent guns were caused by an engine room error, not US gunfire. *Nachi* used boiler steam to generate electricity and the dynamo turbine was switched to a formerly cold boiler while it was being brought on-line. Its pressure was too low to drive the dynamo's turbine. Whilst an easy error to make under combat stresses, it cut electricity powering motors driving *Nachi*'s turrets. The guns could not fire until electricity was restored.

The bridge hit killed five or six members of the bridge team and wounded a dozen others, as well as severing the electrical lines running to the main fire director and the radio antenna on the foremast. Until repaired, Hosogaya's communications were limited to signal flag and blinker, and *Nachi*'s main battery was under local control, reducing accuracy.

McMorris ordered both cruisers to launch floatplanes, to act as spotters. Almost immediately he rescinded the order for *Richmond* to launch its floatplane, while repeating the order to launch to *Salt Lake City*. He wanted to retain *Richmond*'s seaplane for later. *Salt Lake City* however was unable to launch – their fuel had been removed and the cruiser's gasoline lines drained at night to reduce fire hazard. Normally refueled after sunrise, the battle began before then and fueling an aircraft while firing guns was too hazardous.

F FOR WHAT WE ARE ABOUT TO RECEIVE

Ten minutes after the Japanese opened the battle, *Salt Lake City* scored its first hits. On its third salvo, as shown in this illustration, two shells struck *Nachi*. One struck the starboard side of *Nachi*'s bridge, near the rear. It killed several signalmen standing near the foremast halyards and started a fire, which was quickly brought under control.

More importantly, it severed electrical lines running to the main battery director. Until those were repaired, that director, used to aim *Nachi*'s main guns was useless, forcing the turrets to go to local control, degrading fire accuracy. The second shell struck the starboard side of the mainmast, severing the after leg, and cutting communications with the radio antenna. That hit may explain why *Nachi*'s floatplane could not communicate with the Japanese flagship.

The US Navy's spotting procedure was to fire the first salvo short, the second over, and the third (and subsequent) salvo on target. *Salt Lake City*'s opening salvos were a textbook example of how it was supposed to work. (It also landed a hit with one of the shells fired during the fourth salvo.) While both US cruisers claimed to have made the hit, *Richmond* was firing at extreme range for its 6in guns but the range was comfortably

within that of *Salt Lake City*'s 8in guns. *Salt Lake City* had the most experienced spotters in the Task Force, combat veterans, and its director was higher than *Richmond*'s, allowing better visibility. It was remarkable shooting.

As the lead cruiser*, Richmond* was the main target for the Japanese in the battle's opening minutes. In addition to *Tama*, *Nachi* and *Maya* fired their opening salvos at *Richmond* before switching to *Salt Lake City*. McMorris flew his flag aboard *Richmond* because *Salt Lake City*, TG16.6's most powerful ship, joined at sea with McMorris already aboard *Richmond*. (USNHHC)

The range soon closed enough that both sides' destroyers and the Japanese light cruisers could reach their foes with their main guns. *Bailey* and *Coghlan* initially fired at *Nachi*, while *Tama* took *Richmond* under accurate fire. *Bailey* shifted to *Tama*, hoping to help *Richmond*. McMorris, realizing his chance to reach the transports had passed, knew a stand up fight would end badly for the US so he ordered a 40 degree turn to port, away from the Japanese, at 0645hrs.

While *Nachi*'s guns were silent, its torpedoes worked. Shortly after the US warships turned, *Nachi* fired eight torpedoes at the US formation. Range was between 14,000 and 18,000yds. They would not reach the US ships for 15 minutes. When they arrived, observers on *Richmond* saw torpedoes pass ahead of and under *Richmond*. The Japanese torpedo men had set them too deep. *Salt Lake City*'s executive officer saw a torpedo wake ahead of his cruiser and lookouts on *Bailey* reported a torpedo broaching 4,000yds from its port quarter, passing undetected as it went past the destroyer. It was phenomenal accuracy, but went unrewarded.

At 0651hrs McMorris radioed Kinkaid, reporting Japanese strength: "Two heavies [cruisers] two lights four destroyers four transports." A minute later, recognizing the US ships were running, Hosogaya ordered his ships to a southwest course at 30 knots.

Maya followed *Nachi*, but *Tama* and its destroyers cut the corner, turning on the same course as the heavy cruisers, two nautical miles to their right. *Abukuma* and its destroyers also cut the corner, 1,000yds to the right of *Tama* and its destroyers. US observers believed *Tama* was trying to shield the transports. Hosogaya ordered his destroyers to make a torpedo attack on the US line, something their position would facilitate. The destroyers, either missing the order for increased speed or unable to increase it, kept at 28 knots, falling behind and making a torpedo attack impossible.

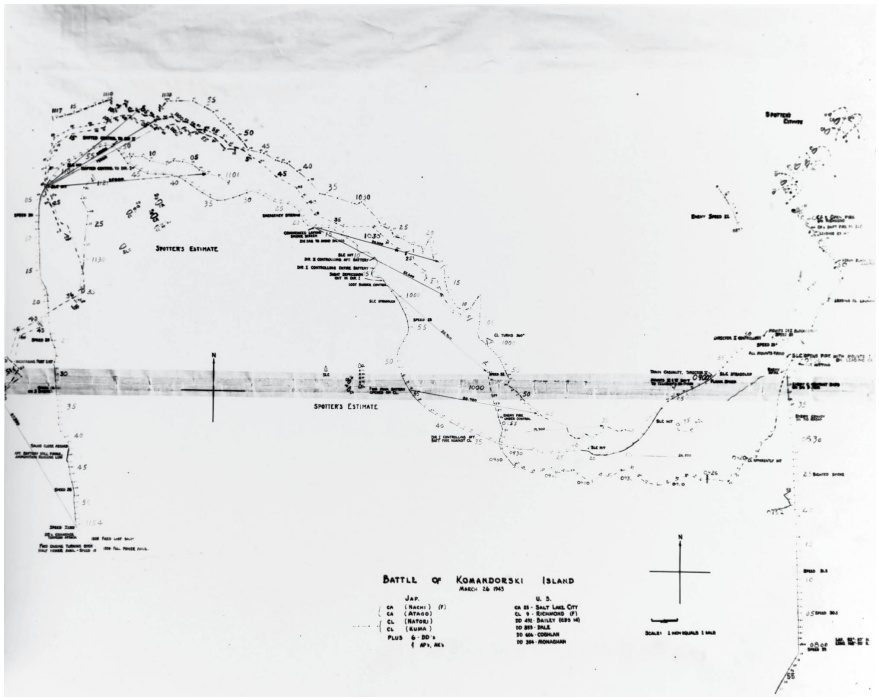
Immediately after turning, *Nachi* took another hit, probably from *Salt Lake City.* It struck the torpedo compartment, killing two and wounding others. At 0654hrs *Nachi*'s crew finally launched the floatplane on the port catapult, an Aichi E13A. This aircraft, codenamed "Jake," was a two-seat monoplane.

At 0656hrs the Japanese light cruisers began exchanging broadsides with *Richmond*, which could only reply with its stern guns. Although Japanese fire was heavy, none of the shots hit, and at 0658hrs McMorris ordered speed increased to 30 knots, to open the range. At this time, the engine gang on *Salt Lake City* fed in too much oil too quickly, causing a massive gout of black smoke to erupt from incompletely combusted oil. This cheered the Japanese, who believed it meant they had scored a hit on the cruiser.

Withdrawal and pursuit (0700–0900hrs, G+12)

Both sides were streaking west, and McMorris was gaining, even though the Japanese were faster. *Nachi* and *Maya* kept turning to bring their full ten-gun battery to bear, which caused them to fall behind and it also degraded gunnery accuracy. Despite firing at *Salt Lake City* since 0640hrs they had failed to score a hit. *Richmond* ceased firing at 0703hrs, the range opening beyond *Richmond*'s 6in guns, but *Salt Lake City* continued, albeit only with after turrets.

One reason the Japanese kept missing was *Salt Lake City*'s captain, Bertram Rodgers, was "chasing" salvos. As near-misses came in, Rodgers altered course into their splashes. The firing ship used the observed distance between the target and the splashes to correct the range, but this assumed the target maintained a constant speed and heading. Chasing splashes invalidated this assumption, and threw off the aim. Observers on *Salt Lake City* felt *Nachi* (which resumed firing at 0730hrs when power was restored) was firing tight patterns. One US officer stated those salvos landed in a 15yd by 45yd pattern. *Maya*'s were more scattered.



The track chart of the overall action. This was put together at Dutch Harbor after the battle by combining reports from all US warships present at Komandorski. It shows the overall flow of the action. (USNHHC)

Abukuma, shown at Paramushiro in August 1942, attempted to close on the US warships at 0735hrs. *Salt Lake City* fired at it to warn it off. The Japanese light cruiser broke away, following at a more respectful distance seeking another chance to close. (USNHHC)

At 0707hrs, *Maya*, the only cruiser then firing at *Salt Lake City*, launched torpedoes at the US ships. As a long-range shot at a retiring target, the odds were low, and only four torpedoes were launched. They missed so badly that US observers never saw them. However, at 0710hrs, *Maya*'s gunnery landed a round so close to *Salt Lake City* that Rodgers thought it had been hit. Damage control teams though found no damage; it had missed.

Meanwhile, *Nachi*'s floatplane was proving a nuisance. At 0708hrs it approached *Richmond*, to be chased off by seven 3in rounds. *Monaghan* fired eight salvos of 5in rounds at the Aichi, also to encourage departure. Eight minutes later, the floatplane approached *Salt Lake City*, to be greeted by a 5in barrage from the cruiser, *Dale*, and *Monaghan*. It made a hasty departure.

At 0720hrs a bloom of smoke erupted from *Nachi*, and the cruiser slowed. *Maya* matched speed, and stopped firing. US crews assumed they had made a hit on *Nachi*, one historian stating a destroyer's 5in shell had penetrated the Number 1 turret. However, Japanese after-action reports record no hit at that time. Instead, it was probably an engineering mishap, like the one causing *Salt Lake City* to belch smoke earlier.

At 0725hrs, *Nachi*'s damage control parties finished repairing electrical lines to its main battery fire director. Electricity to the turrets had been restored earlier, but *Nachi* did not want to waste shells firing at long distances under local control. *Nachi* resumed firing at 0730hrs under central control. Now *Salt Lake City* was being bombarded by both Japanese heavy cruisers.

Nachi's floatplane closed on *Salt Lake City* once more at 0733hrs, but the US ship hit back hard. Waiting until the Aichi closed the range, its antiaircraft battery opened up with everything, causing the floatplane to break away, trailing smoke. Antiaircraft crews assumed they had shot it down.

At 0735hrs *Abukuma* ran at the US line, closing to 20,000yds. *Salt Lake City*'s after guns fired three salvos at *Abukuma*. It got the message, making an abrupt turn away from *Salt Lake City*, opening range, and *Salt Lake City* shifted fire back to the heavy cruisers.

G MIKE SAIL ZERO

It took four minutes for *Salt Lake City* to glide to a stop after its boilers were quenched by accidentally switching the fuel line feeds from a fuel tank filled with fuel oil to a fuel tank ballasted with sea water. As steam pressure died, the ship went largely silent. All but emergency battery power was fed by steam-powered dynamos. Motors, blowers, pumps, everything normally run by electricity stopped. Only voice-powered communications (including the telephones) still worked. Turrets and ammunition hoists could still be moved, but slowly, by muscle power.

This illustration shows *Salt Lake City*, two minutes after it ceased moving. As its engineers work frantically to relight its boilers, it sits in the water, down by the stern and listing to starboard, motionless except for a rocking due to waves slapping it. From its signal halyard, fly three flags: M, S, and 0 – in the alphanumeric code used by the US Navy in 1943, “Mike, Sail, Zero” – “My Speed Zero”.

Despite the quiet aboard *Salt Lake City*, the battle rages. Torpedoes from the Japanese destroyer *Wakaba* launched earlier pass ahead of the cruiser. Eight-inch shells from the Japanese heavy cruisers splash around it. Fired through momentary gaps in the smokescreen, they all miss. Even against a stationary target, long-range gunnery

requires as much luck as it does skill. *Salt Lake City*'s crew cannot abandon ship because the frigid Arctic waters guarantee a quick death by exposure. So, they wait, hoping the boilers restart before they are sunk.

At 0745hrs McMorris turned north seeking the transports. He realized he could not slip past the Japanese warships and eight minutes later, he gave up on the transports, turning west-northwest. His goal was now disengaging his ships and slipping the Japanese. He also signaled *Salt Lake City* that *Richmond* would conform to the movements of *Salt Lake City*.

Traditionally, during battle, ships conformed to the movements of the flagship, and *Salt Lake City* was McMorris's most powerful ship. He continued issuing course and speed commands, but the other ships, including *Richmond*, formed around *Salt Lake City*. However, due to chasing splashes, *Salt Lake City* was now the trailing ship.

Rodgers took advantage of his new freedom. *Abukuma* again closed range to 18,000yds, and at 0753hrs, as the other US ships changed course, *Salt Lake City* turned right, bearing its full broadside on *Abukuma*. It fired eight full salvos in rapid succession, but *Abukuma* was not hit, instead turning hard to port and completing a 360-degree turn before resuming the chase – at longer distance. Rodgers turned west, resuming fire on *Nachi*.

At 0758hrs, with McMorris running west at 28 knots, *Nachi*'s seaplane briefly reappeared, popping out of the clouds. Greeted by 17 rounds of 3in gunfire from *Richmond*, it ducked back into the clouds. Having been damaged previously, but not badly, its pilot had been unable to make radio contact with *Nachi* (probably due to *Nachi*'s damaged antenna) and could not spot for it. Unable to contribute usefully to the battle, the pilot called it a day and flew to Attu, landing in the harbor.

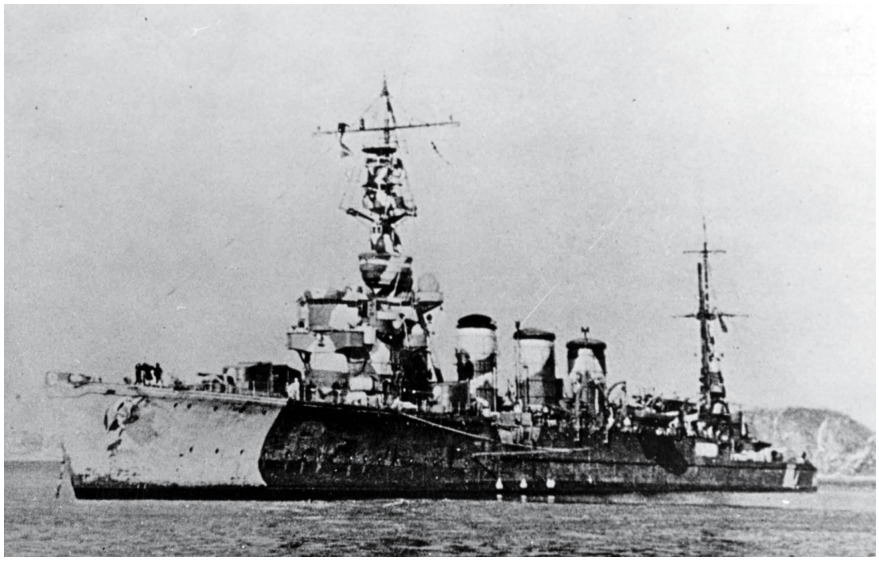
Between 0802hrs and 0803hrs, *Salt Lake City* suffered a steering failure. The hydraulic engine controlling the rudder failed, a victim of the shocks from 90 minutes of its main guns firing. Steering was shifted to after control; rudder motion limited to angles of ten degrees maximum. McMorris could no longer pursue the transports, so thereafter he concentrated on ending the battle.

About this time McMorris received a radio message from Kinkaid, advising McMorris to consider retiring given the disparity of forces. It also advised that Army Air Force bombers should arrive in 4.5 hours – that provided a laugh.

After *Salt Lake City* suffered a steering failure, McMorris decided to break off the action, ordering *Salt Lake City* and two destroyers to lay smoke, to screen the US ships from Japanese view. *Salt Lake City* is silhouetted ahead of the smoke in this picture. (USNHHC)

Observing *Salt Lake City*'s erratic steering, *Nachi* and *Maya* intensified fire on the US cruiser and, at 0810hrs, they made a direct hit on *Salt Lake City*'s forecastle. Passing through the main deck, the chain locker, it exited out the starboard side below the waterline without exploding. Damage was largely limited to flooding.

At 0813hrs, McMorris ordered *Bailey* and *Coghlan* to form on *Salt Lake City* and make smoke, and ordered course 300 degrees. At 0818hrs, with the destroyers on either side of the cruiser, all three began making smoke; black smoke from their funnels, white from fantail chemical smoke generators.



Tama pierced the smoke screen, engaging *Bailey* at 0844hrs. *Bailey* returned fire, joined by *Coghlan* and *Richmond*. *Tama* retreated back behind the smokescreen, returning several times only to be driven back each time by *Richmond.* (USNHHC)

Frustrated by the smoke, at 0828hrs, the two Japanese heavy cruisers turned to 240 degrees. While opening the distance, it moved them to the side of the smokescreen where they occasionally spotted their target. Whenever they caught a glimpse of a target, they launched an accurate salvo. At 0835hrs McMorris sent the remaining destroyers to *Salt Lake City*, giving Rodgers tactical command of them. As smoke increased, Japanese fire slackened.

Tama poked through the smoke at 0844hrs, firing at *Bailey*. *Bailey*, *Coghlan*, and *Richmond* immediately returned fire. *Richmond* fired at maximum rate, forcing *Tama* north, behind the smoke, but *Tama* kept probing the smoke screen, and *Richmond* kept forcing it back. A lull fell over the battlefield, allowing McMorris to send Kinkaid a situation report at 0851hrs.

Shortly after that, *Monaghan* experienced a machinery failure; the reduction gearing lost a tooth. The grinding led the engineering officer to reduce engine speed to prevent disintegration of the gearing but *Monaghan*'s captain countermanded the order; speed was restored. The engine held together.

At 0859hrs, *Salt Lake City* was hit on the starboard catapult. It set the unlaunched plane afire and killed two men. The aircraft was jettisoned, and the fire quickly brought under control. Damage was minimal.

My Speed Zero (0900–1020hrs, G+12)

The next hit, at 0903hrs, was deadly. McMorris had ordered a change to course 210 degrees and as *Salt Lake City* started its turn, a shell hit below the waterline at Frame 102. After bouncing off the Number 4 propeller shaft it cut through one fuel tank, exploding in the next tank. Both port propeller shafts vibrated badly; Number 4 was knocked out of alignment and Number 3 had a bearing destroyed.

Water flooded into the engine room through the shaft tunnels, a hole in the bulkhead, and sprung piping. The engine room called for a damage control party, which soon blocked the hole and packed the leaking pipes with kapok from life jackets, stemming the flow. Nothing could be done about the shaft leaks while the port propellers were still turning. The pumps had to keep up with the inflow, but the water began gaining. *Salt Lake City* soon held 1,000 tons of water and had a five-degree list.

McMorris ordered his force due south at 0908hrs, to run past the Japanese so he could move east. The destroyers moved astern of *Salt Lake City*, guarding it with smoke, but at 0910hrs *Abukuma* came clear of the smoke screen, spotted *Dale*, and began firing. A furious exchange of fire between the two ships followed over the next ten minutes, but neither ship scored hits. When the smoke screen covered *Dale*, firing stopped.

At 0910hrs, *Abukuma* penetrated the smokescreen. *Dale* (shown) entered into a furious ten-minute exchange with *Abukuma* before *Dale* was once again screened by smoke. Neither ship landed a hit, although many near-misses occurred. (USNHHC)

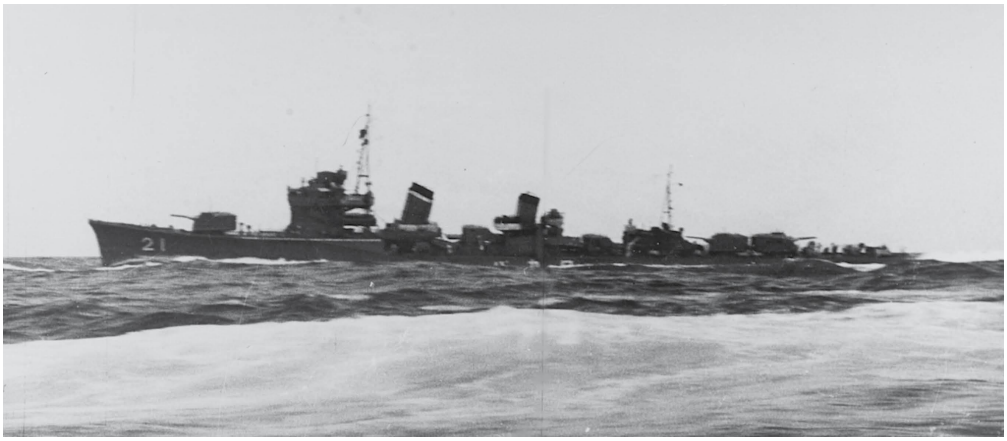
Perhaps frustrated by their apparent inability to harm the US ships by gunfire, the Japanese launched torpedoes into the smoke. *Maya* launched four at 0905hrs, *Nachi* eight at 0907hrs, and *Abukuma*, during its gunnery duel with *Dale*, launched four at 0915hrs. All missed, and the US was unaware torpedoes had been launched. The Japanese then turned south, in pursuit of the Yankees.

Aboard *Salt Lake City* conditions worsened. Salt water had mixed with fuel in the holed fuel tanks causing boiler problems. The cruiser's speed dropped to 20 knots as the after boilers stuttered. Nimble handling of fuel valves routed oil from undamaged tanks to the boilers, restoring their fires, and the Number 3 propeller was stopped, so its shaft could be locked. With pressure restored, the pumps gained on the water and by 0935hrs *Salt Lake City* was back to 26 knots.

Aboard *Richmond*, McMorris was dealing with the oncoming Japanese. When 19,000yds separated the fleets he ordered the destroyers to launch a torpedo attack. All but *Monaghan*, detailed to stay with *Salt Lake City*, turned to attack the heavy cruisers. Hosogaya, seeing the oncoming destroyers, turned to starboard, firing full broadsides at the destroyers. Rodgers told McMorris *Salt Lake City* had resumed speed and McMorris recalled the destroyers. As they retired to take up positions line-abreast aft of *Salt Lake City*, they masked their position with smoke.

The Japanese preoccupation with the destroyers left *Salt Lake City* undisturbed by enemy fire and a clear view of *Nachi*. Firing several ten-gun salvos, it landed one 8in shell at 0948hrs. This penetrated *Nachi*'s lead turret, striking the starboard gun, but not exploding. It locked the turret in train and killed two in the turret's crew. A minute later, *Wakaba* launched six torpedoes at the US ships and, at 0954hrs, *Hatsushimo* launched five more. All missed.

Salt Lake City's after magazines had exhausted the supply of armor-piercing rounds. The stern turrets loaded high-capacity rounds; these lacked marking dye. The turret officer fired these shells individually, hoping the Japanese would think they were bombs dropped by unseen aircraft. Perhaps it worked, as *Nachi* and *Maya* fired a massive antiaircraft barrage after shells started landing. The battle had ranged over three hours and Hosogaya felt aircraft from Adak were overdue.



Wakaba (shown) and *Hatsushimo* launched torpedoes minutes apart at 0949hrs and 0954hrs. *Wakaba* unloaded all six of its loaded torpedoes, but *Hatsushimo* had problems with one tube and only launched five. All eleven missed the fast-moving, maneuvering US warships. (USNHHC)

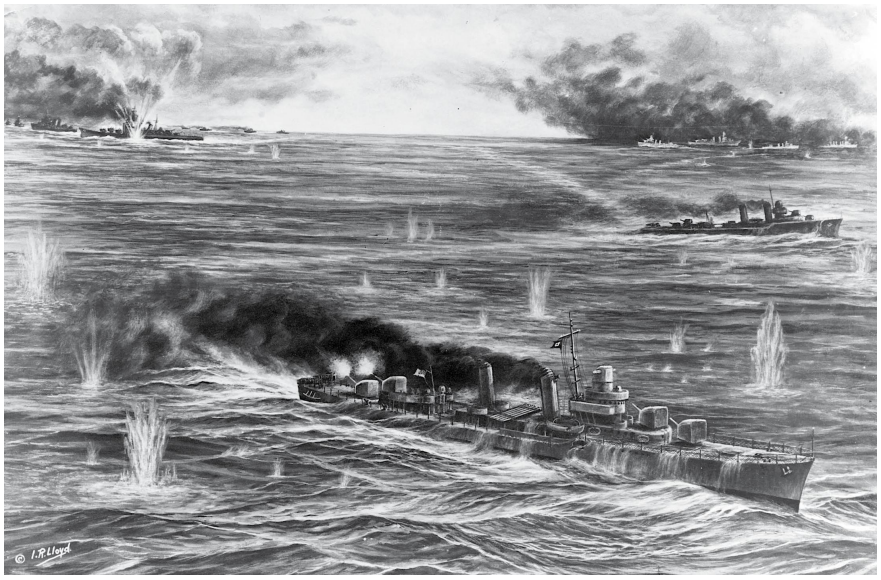
Finally, armor-piercing shells were transferred from the forward magazines to the after magazines, and watertight doors were opened. In a hazardous operation during battle, nearly 200 256lb 8in rounds and 400 powder bags were moved the length of the ship, to the after magazines. Shells were moved by a trolley system, rarely done at sea, whereas the 42.5lb powder bags were passed hand-to-hand. A hit during this would have finished the cruiser, but the transfer was completed without incident.

It looked as if the US fleet was successfully escaping when disaster struck. While the engine-room gang was shifting fuel oil to correct the list, someone turned the wrong valve. It shunted the contents of a fuel tank filled with salt water into all eight boilers. At 0950hrs all fires were doused. With the throttles open full, steam pressure died quickly and the turbines stopped turning. *Salt Lake City* glided to a halt and the cruiser's speed status was relayed to McMorris as the ship slowed. By 0954hrs, it was dead in the water, and a doleful message was sent: "My speed zero."

Most aboard *Salt Lake City* believed the ship lost, but they could not abandon ship – the Arctic water would freeze anyone in it in minutes. Instead, those manning the guns prepared to make a last stand as the Japanese seemingly pressed their attack. *Wakaba*'s torpedoes raced past the motionless cruiser, 8in shells falling around it. In the engine room the engine team began working to restore the boilers. They purged the salt water from the fuel lines and switched to lines fed from tanks with uncontaminated fuel oil.

Salt Lake City fired so many rounds from its after turrets that it emptied its after magazines of armor-piercing 8in rounds. It continued using high-capacity rounds until fresh ammunition was transferred from the forward magazines. (USNHHC)

They had to relight the boilers using natural draught. The blowers required electricity produced by steam-fed turbines. Opening hatches to improve air flow, the boilers were carefully relit. As steam pressure built it was fed to the generator turbines, restoring the blowers, and the increased draught fanned the flames, increasing pressure. The engines started turning again at 0958hrs.



The destroyers made a torpedo run at the Japanese battle line in an attempt to protect the crippled *Salt Lake City*. Only *Bailey* launched torpedoes. *Coghlan* could not find an advantageous angle and held fire. This shows both ships retiring after the torpedo run. (USNHHC)

While this was happening, the destroyer division captain, Ralph Riggs, aboard *Bailey*, asked McMorris for permission to launch a torpedo attack. McMorris responded "Execute." The order had already been sent to the other destroyers from *Bailey* by flag. McMorris told *Dale* to stand by the cruiser, and, at 0957hrs, led by *Bailey*, *Monaghan* and *Coghlan* turned and ran toward the Japanese.

The Japanese ships shifted fire to the onrushing destroyers. Time and again near misses soaked the unhit destroyers. The destroyers returned fire, concentrating on *Nachi*. Finally, at 1000hrs, with the range 10,000yds, a shell hit *Bailey* amidships on the starboard side. Five members of *Bailey*'s damage control team were killed, six wounded. Riggs ordered the torpedoes launched at range 9,500yds. Torpedoes expended, *Bailey* turned away from the Japanese line. A hit then sprayed *Bailey*'s forward fireroom and engine room with shell fragments, knocking them out. A third 8in shell gouged a groove on *Bailey*'s forecastle deck without exploding.

H TORPEDO RUN

While *Salt Lake City* was gliding to a halt, Captain Ralph Riggs, senior destroyer officer, began preparing his ship *Bailey* to lead a torpedo attack against the Japanese cruisers. He saw it as a way to save *Salt Lake City*. He ordered *Bailey*'s CiC team to work up a torpedo attack solution, and its signalmen to prepare to hoist an attack signal on the halyards. As soon as McMorris granted permission, Riggs set course for a torpedo run, signaling *Coghlan* and *Monaghan* to follow. *Coghlan* and *Monaghan* were less swift than *Bailey*, falling behind, but following. *Monaghan* trailed by 2,000yds.

The attack drew Japanese attention away from *Salt Lake City*. Their cruisers switched to firing at the onrushing destroyers, instead. As the range closed, the cruisers' fire became more accurate. Finally at 1000hrs and 10,000yds, an 8in shell struck *Bailey* on its starboard superstructure, opposite the pantry. Concerned that another hit might cripple *Bailey*, Riggs asked *Bailey*'s captain, Commander John Atkeson, to launch torpedoes.

The range was extreme for US torpedoes, 9,500yds. Atkeson, agreeing with Riggs's assessment, ordered torpedoes launched. This illustration captures *Bailey* immediately

after it launches torpedoes, with *Coghlan* trailing and attempting to reach a position where it could launch its torpedoes.

Riggs's and Atkeson's instincts were right. Shortly after the torpedoes entered the water, *Bailey* was struck by two more 8in shells. One hit flooded the forward fireroom and engine room. The second trajectory, flat due to the close range, gouged a groove on the deck of *Bailey*'s forecastle.

At 1003hrs the unbelievable happened – the Japanese turned away. *Bailey*'s crew believed it due to their torpedoes. The Japanese had spotted four in the water. One, on course to hit *Abukuma*, exploded prematurely. The rest missed. But torpedoes were not why the Japanese turned away.

Even before *Salt Lake City* glided to a stop, the Japanese had been opening the distance from the US ships. The resupply mission had failed, and Hosogaya was low on ammunition and expected US aircraft to arrive momentarily. He wanted to go before they arrived and felt finishing the crippled *Salt Lake City* did not justify risking four cruisers to air attack.

However, the Japanese got in one last blow. *Coghlan* had caught up to *Bailey* as *Bailey* began its turn-away. Seeing a bad angle for launching torpedoes, *Coghlan*'s captain turned to join *Bailey* as an 8in round struck and severed the mast. Fragments sprayed the bridge, wounding two and knocking out the radar. With the enemy retiring, McMorris recalled the destroyers.

By 1000hrs *Salt Lake City* was back up to 15 knots and gaining speed. It kept firing at the Japanese until 1004hrs. *Richmond* and the three destroyers ceased fire at 1012hrs; by 1015hrs, the enemy was hull down and the battle was over.

CONCLUSION

Despite 5ft of water in the after engine room bilges, *Salt Lake City* could make 30 knots at battle's end. Both sides returned to port, McMorris to acclaim, Hosogaya to criticism.

McMorris deserved praise. Against heavy odds, he stymied the Japanese attempt to resupply Attu and Hosogaya had sent the transports home rather than risking them to the now-alert Allied air forces. If McMorris had lost both cruisers, stopping the transports would have made the battle a US victory. Instead, he preserved all ships to fight again.

While casualties on both sides were low, there were deaths. *Salt Lake City* lost two killed, and instead of burial at sea they were buried at the Dutch Harbor cemetery. This is the burial party carrying their dead comrades to their graves. (USNHHC)

Hosogaya came home to accusations of cowardice and incompetence. His peers did not understand why he had failed to destroy a force half his size. McMorris was rewarded with an important and prestigious job on Admiral Chester Nimitz's staff. Hosogaya's reward was losing command of the Fifth

Fleet and he was put on the reserve list. In November 1943 he was named Governor of Japan's South Seas Mandate, previously a civilian position, and he ended the war on Truk.

Despite the intensity and duration of the battle, casualties for both sides were remarkably low. The US had seven killed and 20 wounded, shared among *Salt Lake City*, *Bailey,* and *Coghlan*. The Japanese had 14 dead and 26 wounded, all but one on *Nachi*.

The low casualties were the consequence of an equally remarkable lack of hits – by both sides. The Japanese landed only seven direct hits, all 8in shells, over a battle lasting 3.5 hours (222 minutes from the first Japanese gun fired to the last US round). Four struck the charging destroyers during the three minutes of their final torpedo run. Range was then 9,500 and 10,000yds. When firing at 16,000 to 24,000yds they averaged one hit every 54 minutes.

After the battle comes the analysis. This party of *Salt Lake City* officers are plotting CiC records of the action, after the ship's return to Dutch Harbor. The course chart shown earlier was developed from this exercise. (USNHHC)

The US did little better. They landed just four direct hits, all on *Nachi*, and all apparently from *Salt Lake City* 8in shells. The US could be considered as more accurate since they achieved their total with half the 8in guns the Japanese had. Every torpedo launched by both sides failed to score.

It was not for lack of trying though. The Japanese fired 1,611 8in rounds, 200–400 5.5in shells, and 300–325 127mm rounds. The US fired 832 8in rounds (including 26 high-capacity shells), 271 6in, and 2,290 5in shells during the battle. (Perhaps a third of the 5in was expended against *Nachi*'s E13A.) A total of 48 torpedoes were launched, five by the US.

End of battle ammunition concerns were real, especially for the heavy cruisers. *Nachi* fired an average of 70 8in rounds per gun during the battle, *Maya* 90, and *Salt Lake City* (which used mostly its stern turrets) 83. Japanese heavy cruisers stowed 120 to 126 rounds per main gun; US cruisers 150. *Nachi* and *Salt Lake City* fired 5/9th of their 8in rounds during the battle, while *Maya* expended 70 percent of its ammunition.

The inaccuracy on both sides illustrates the difficulty of scoring a hit at extreme distances. Close was easy. Both sides landed numerous near misses, which could do minor damage. *Richmond* was bracketed by the second Japanese broadside. The US found *Nachi*'s range after three broadsides. Yet there was a lot more ocean around a ship than there was ship. At 20,000yds a ship was a small target. Chasing splashes may have avoided hits, yet when *Salt Lake City* was dead in the water, Japanese gunfire still missed. An 8in shell even went through one of the flags in *Salt Lake City*'s "My Speed Zero" hoist without hitting the cruiser. That close was still a miss.

A warship could do almost as much damage to itself as the enemy did. In addition to its own gunfire disabling its steering, *Salt Lake City* fired its rear main guns so much the liners crept 0.5in. They had to be replaced after the battle along with other battle damage suffered. (USNHHC)

Many things contributed to the US victory. Crew alertness was one. Due to clock differences (US clocks were set five hours ahead of Japanese clocks) US crews had been up two hours before the battle started, and had eaten breakfast. The Japanese crews were still in their hammocks when general quarters sounded. Abruptly waking up two hours early, and eating a cold breakfast at battle stations hurts efficiency. Not much necessarily, but it makes a difference.

Another, more significant, factor was superior US damage control, in both design and damage control party quality. *Bailey* illustrated the former. *Bailey* and *Coghlan* were the only ships at the battle with alternating firerooms and engine rooms. An 8in shell hit and flooded *Bailey*'s two forward machinery compartments, but *Bailey* kept steaming on its after fireroom and engine

room. Except for *Coghlan*, a similar hit on any other destroyer would have flooded both firerooms, knocking out propulsion. Both sides were over 400nm from port. Towing a destroyer that distance was impractical, and without power a destroyer would have been scuttled. *Bailey* made Adak slowly but successfully, under its own power.

The Battle of the Komandorski Islands was fought during an Arctic spring, a few days past the vernal equinox. It was brutal weather, especially for sailors whose jobs placed them exposed to the elements. They wore heavy winter clothing to protect them from the cold. (USNHHC)

US crews seemed better at damage control and repairs than their Japanese counterparts. When a shell cut electricity to *Nachi*'s main fire director it took 35 minutes to find the breaks and repair them. When a Japanese shell penetrated *Salt Lake City*, causing severe flooding (including opening two fuel tanks), US damage control took less time bringing this more serious damage under control. When water-contaminated fuel dowsed the after fireroom, fires were restored in six minutes.

When a crew error aboard *Nachi* left its turret hoists and train gear powerless, it took 40 minutes to restore power, although it involved just restoring steam pressure to an otherwise undamaged generator turbine. When

a similar type of engineering error doused all *Salt Lake City*'s boilers, the problem was diagnosed, corrected, and *Salt Lake City* underway again in eight minutes, despite the challenge of starting the boilers using natural draught.

The US victory was also the result of a greater US willingness to take risks. Had McMorris turned and ran, upon realizing the enemy's superiority, Hosogaya could have recalled the transports, rendezvoused with *Sanko Maru*, and continued on to Attu. McMorris's pursuit of the transports and the resulting 3.5 hour battle led Hosogaya to abandon the mission.

On the other hand, Hosogaya proved reluctant to aggressively close range with McMorris's ships. He had reasons for this. Zig-zagging allowed him to fire full ten-gun broadsides instead of four bow guns. At 22,000 to 18,000yds, the destroyers and light cruisers were not factors, allowing him a 2:1 firepower advantage with his heavy cruisers. (More realistically 4:1, as *Salt Lake City* could only fire its stern turrets.)

More importantly, serious damage to one of his ships would have proved fatal. A badly damaged ship was unlikely to successfully make a 450nm trip to port. Cruisers and destroyers were increasingly scarce resources for the Imperial Navy. Exchanging two, or even one, heavy cruisers for all of McMorris's ships was a bad trade. It would have left the Imperial Navy proportionally weaker than the US Navy.

Finally, the US victory came down to luck – the breaks fell to the United States. On the battlefield luck matters, if you are willing to take advantage of it. Cardinal Mazarin once said, "the question to ask of a general is not, 'Is he skillful?' but 'Is he lucky?'" McMorris was, Hosogaya was not.

FURTHER READING

I first read of the Battle of the Komandorski Islands in fifth or sixth grade when I read Volume 7 of Morrison's *History of United States Naval Operations in World War II*. In junior high and high school, I was heavily into wargaming with a circle that included my future wife, Janet. We played out Komandorski one epic weekend using modified Fletcher Pratt Naval wargame rules. The game lasted almost as long as the real battle and had eerie parallels (including Japanese torpedoes underrunning US warships).

In my college years I edited a wargaming fanzine, *Ann Arbor Wargamer* (press run, 500). When I could not sucker someone else into writing the cover story, I did, including one where I wrote a lead article about Komandorski. (It had a black-and-white cover drawing of *Salt Lake City* dead in the water by my now brother-in-law and then friend – a fellow wargamer.) When my Osprey editor, Tom Milner, asked if I would like to write a book about the battle, I quickly said yes.

I took a fresh look at the battle in researching this book. A second look revealed a number of new insights and surprises about the battle. The main sources used are listed below. Lorelli's book is probably the most authoritative source around, and I tended to favor his views to Morison's when they contradicted each other.

For a fictionalized account of the battle, read Martin Dibner's novel *The Deep Six*, if you can find it. It is politically incorrect, and probably canceled, but he served as an officer aboard *Richmond* during the battle.

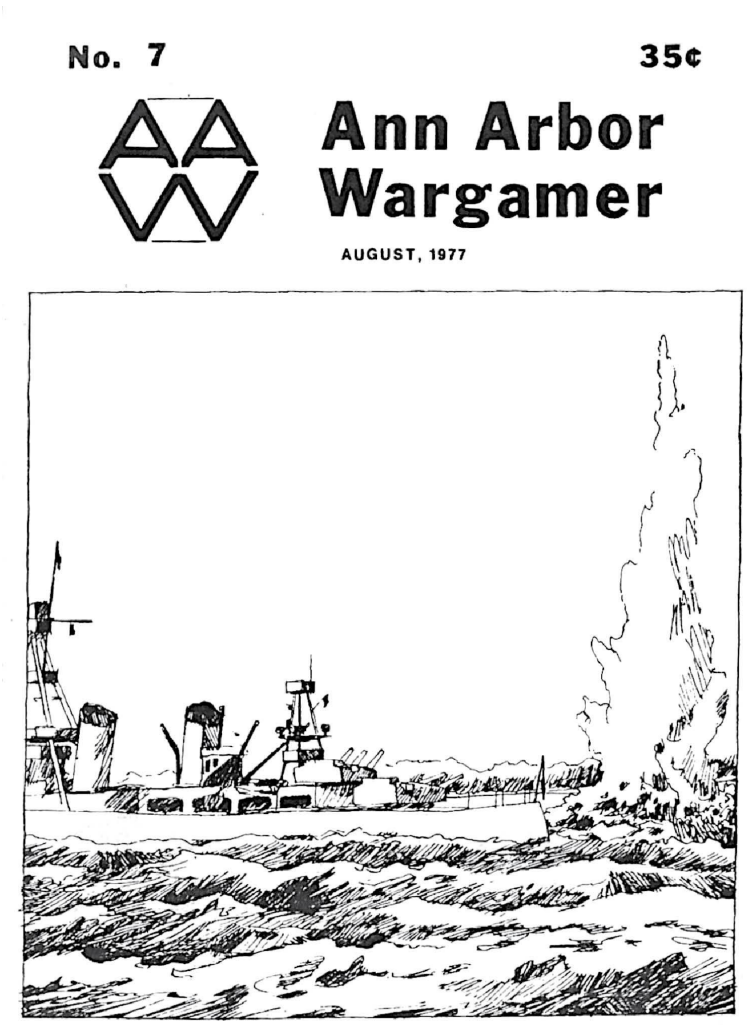
References marked with an * are available online:

http://navweaps.com/ (for details on weapons)

Dictionary of American Naval Fighting Ships, online edition (**https://www.history.navy.mil/research/histories/ship-histories/danfs.html**, Accessed March 1, 2017)

Backer, Steve, *Japanese Heavy Cruisers: Myoko and Takao Classes* (Barnsley, Yorkshire: Seaforth Publishing, Pen & Sword Books, 2006)

Friedman, Norman, *Naval Radar*, Naval Institute Press (Annapolis, Maryland: Naval Institute Press, 1984)
Friedman, Norman, *U.S. Destroyers: An Illustrated History* (Annapolis, Maryland: Naval Institute Press, 1989)
Friedman, Norman, *U.S. Cruisers: An Illustrated History* (Annapolis, Maryland: Naval Institute Press, 1984)
Lorelli, John A, *The Battle of the Komandorski Islands, March 1943* (Annapolis, Maryland: Naval Institute Press, 1984)
McMurtrie, Francis E. (ed.), *Jane's Fighting Ships, 1942* (New York: The MacMillan Company, 1943)
Morison, Samuel Eliot, *History of United States Naval Operations in World War II: Volume 7, Aleutians, Gilberts and Marshalls, June 1942–April 1944* (New York: Little, Brown & Co, 1951)
US Naval Technical Mission to Japan, *Reports of the U.S. Naval Technical Mission to Japan, 1945–1946* (Operational Archives, U.S. Naval History Division, Washington, D.C., 1974)*



The cover of *Ann Arbor Wargamer* with the cover showing *Salt Lake City* dead in the water. It was drawn by Paul Potter, a friend from high school and a fellow wargamer. He became my brother-in-law two years later when I married his younger sister Janet, the only female in our wargaming group. (Paul Potter)

ABOUT THE AUTHOR

Mark Lardas holds a degree in Naval Architecture and Marine Engineering, but spent his early career at the Johnson Space Center doing Space Shuttle structural analysis and space navigation. An amateur historian and a long-time ship modeler, he has written extensively about modeling as well as naval, maritime, and military history. Mark is currently working in League City, Texas.

ILLUSTRATOR

Paul Wright has painted ships of all kinds for most of his career, specializing in steel and steam warships from the late 19th century to the present day. Paul's art has illustrated the works of Patrick O'Brian, Dudley Pope, and C.S. Forester amongst others, and hangs in many corporate and private collections all over the world. A Member of the Royal Society of Marine Artists, Paul lives and works in Surrey, England.

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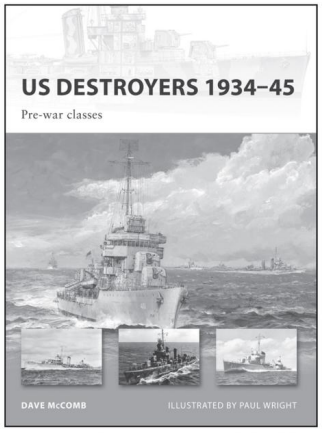

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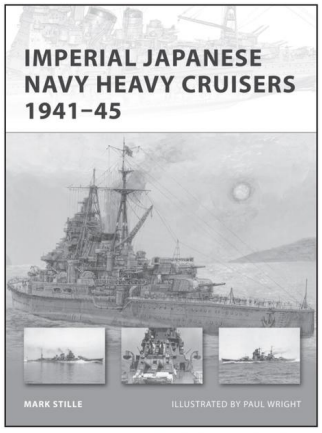

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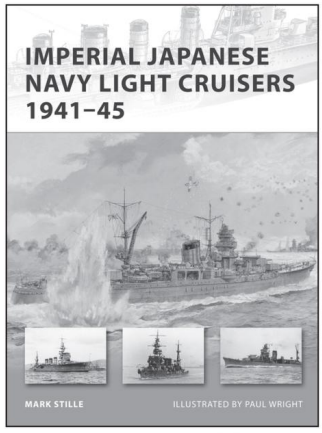

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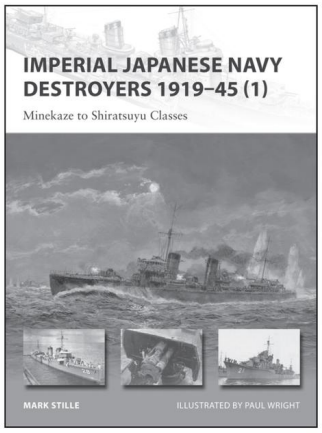

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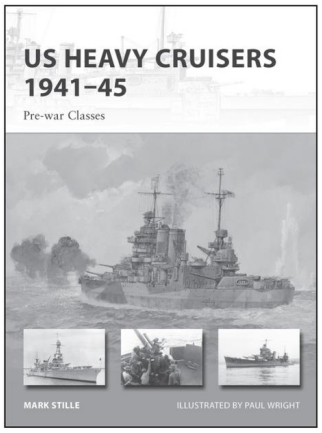

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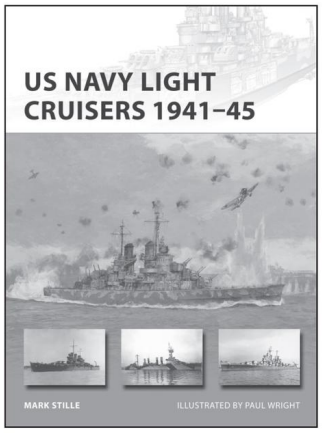

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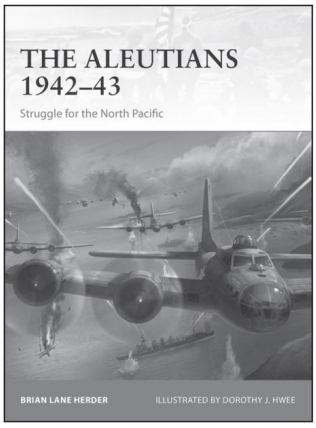

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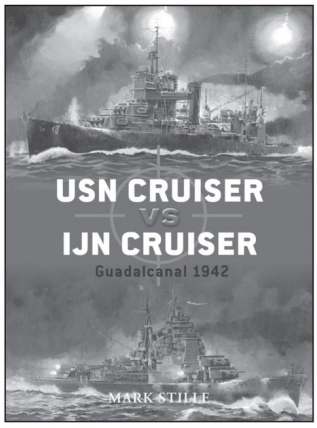

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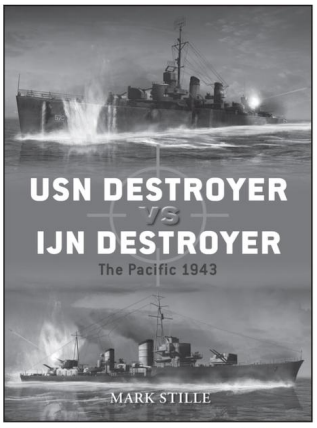

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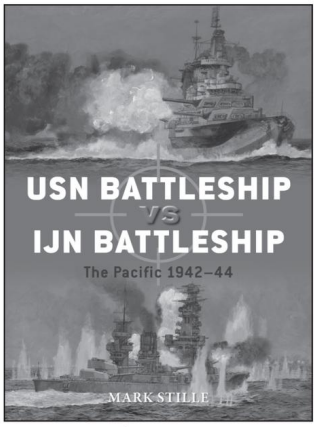

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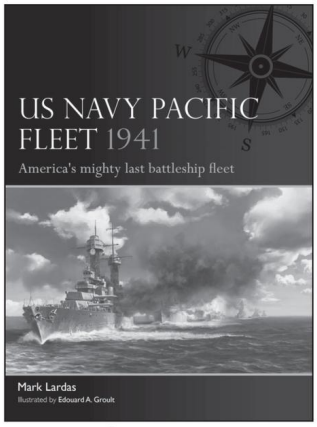

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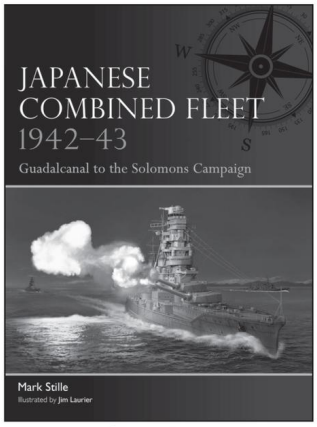

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Title page image: see ***Tama* pierced the smoke screen, engaging *Bailey* at 0844hrs**

Author's acknowledgment
I would like to thank James Kirwan for getting me a copy of my article about the Battle of the Komandorski Islands that appeared in *Ann Arbor Wargamer* #7 back in 1977.

Author's note

The Battle of the Komandorski Islands was fought in the Greenwich +12 time zone, on the west side of the International Date Line. US warships kept time based on Greenwich -10 hours on the east side of the International Date Line. Japanese warships worked at Tokyo time, Greenwich +9 hours. This yields a five-hour difference and one-day difference between US and Japanese log times. To get a noon sight (measuring the elevation of the sun when it is at its highest point) on 26 March at the battle site, a US ship would have to take it at 0900hrs on 25 March based on their clocks, while a Japanese ship would do so at 1400hrs on 26 March.

To avoid favoring either side, I give all times during the battle description in local time, Greenwich +12 hours. This makes the battle events more comprehensible, especially its start time. In local time, sunrise was approximately 0552hrs (approximate because actual sunrise time could occur plus or minus 20 minutes from sunrise in the middle of the time zone, depending on where an observer is). Civil twilight, when items on the horizon become visible, occurs roughly half an hour before sunrise, and nautical twilight is when the horizon can be distinguished up to 80 minutes before dawn.

The following abbreviations indicate the sources of the illustrations used in this volume:

USNHHC – United States Navy History and Heritage Command, Washington DC

AC – Author's Collection